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# The Dairy.

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CONDUCTED BY T. D. CURTIS.

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## Use and Cost.

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A cow that gives 12,000 pounds of milk a year which will make 1,300 pounds of cheese of average quality, may be called a profitable cow. So also may a cow that gives 6,000 pounds of milk a year which will make 400 pounds of butter. Suppose eight pounds of it will make a pound of cheese. Then the 6,000 pounds of milk would make 750 pounds of cheese. How much more per pound would it sell for than the 1,300 pounds? Not enough to make up for the difference in weight. But her 400 pounds of butter, at 30 cents a pound, would bring as much as the 1,300 pounds of cheese, at 10 cents a pound. Now, let us reverse the order and make the 12,000 pounds of milk into butter. We have double the amount to handle and double the amount of skimmed milk to feed, and we will suppose that it takes double the amount, 30 pounds, of milk to make a pound of butter. This would give us just 400 pounds—the same amount made from the 6,000 pounds. If of equal quality, it ought to sell for as much. The question would then be reduced to the relative cost of keep. That of the larger animal would probably be the most, and cheese is more exhaustive than butter to the soil. But it must be conceded the larger animal is

At this stage of the discussion, any light on the question of ripening cream and preparing it for the churn is acceptable. We

need scientific experiments to decide it. In the absence of these, we suppose the opinions of scientific men are next in order. Prof. W. W. Cook, of the Vermont Agricultural College, is reported as expressing the opinion that, all other things being the same, the most butter will be obtained from cream by churning it when there is the most acid in it! This, of course, assumes that acid does not ent or destroy any of the fats, as we have been taught that it does. Artificial souring—as we suppose, with vinegar or other acids—gives quicker results! But this is not all there is of the ripening process. The flavor is obtained, the Professor says, by exposure to the air, and the purer the air the better the flavor. This is Prof. Arnold's philosophy of the oxidation of cream, over again, and in direct opposition to the "starting" idea, with no exposure and no stirring. With pure air, Prof. Cook says, shallow pans afford the best conditions for develop-

capacities for absorbing odors and taints, if the air is impure. There have been no two opinions about the necessity for pure air. But how are taints to be avoided in a foul atmosphere by deep setting, if there is sufficient exposure to develop the flavor? The fact is, we must have a clean, sweet atmosphere anyway, or we cannot have the sweetest and best flavored butter.

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### What the Cheese Maker Wants.

The aim of the cheese maker should be to get out of 100 pounds of average milk 3½ pounds of fat, 3¼ pounds of casein, a small amount of mineral matter, a fraction of the sugar to be transformed into lactic acid and keep the curd in a granular condition—otherwise it will be waxy and stringy—and about 3½ pounds of water. The rest of the sugar, 3½ pounds all of the shrun, which

rennet does not coagulate, will run off with the whey. This albumen is about all that is here left in the whey that is of any value to feed. The sugar is good for nothing unless the whey is fed while it is sweet. The cheese maker saves a little over seven pounds of the solids, and retains about 3½ pounds of water, so that when cured and a portion of the water has dried out he has 10 pounds of cheese, composed of one-third water, one-third fat, and one-third caseous and mineral material. Rich milk may do better, and poor milk worse. If the cheese sells for seven cents a pound, it means 70 cents gross for 60 pounds of milk. Out of this the dairyman must pay the cost of making and marketing and make up any loss.

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Cost of Production.

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As cows are still lying mainly on pasture grass, not much attention is paid to the cost of keep or production. But soon the pastures will give out, and then the feed question will come close home to the dairyman. He may think it all contained in the greater or less cost of feed, ignoring entirely the cost of production. If any of our readers

attention to some figures furnished by the New Hampshire Agricultural Experiment Station, which illustrate the difference in cost of production with different rations and different cows. It was found that the cost of a quart of milk from the best cow, when fed the best of five different rations, was 32 cents, while with the poorest ration it

(Continued on Eighth Page.)

A close-up photograph of a person's eye, looking directly at the camera. The eye is dark and appears to be looking at a document, which is partially visible in the foreground. The document has some text on it, but it is mostly illegible due to the focus on the eye. The lighting is soft, and the overall tone is somewhat somber.



## The Horse.

For the Michigan Farmer.  
INFLUENCE OF SHOWING GOOD HORSES.

Fairs are a great educator in every direction. In no other way do they exert a more wholesome influence than in inspiring farmers to breeding a better class of horses. No kind of live stock can be so well shown up at fairs as horses, no matter to which class they belong. The man who has the true pride of a horseman will feel just as proud behind a handsome draft horse, attached to a wagon or cart, as the admirer of the nimble trotter can in his light sulky behind one of his flyers. In the grand cavalcade at the Plymouth fair this year there was a fine display of horses, from the magnificent Shire, Clyde and Percheron, down to smaller sized roadsters and ponies. Coach horses were represented by Cleveland Bays and French Coach. The different breeds of trotting horses were well represented by a nice display of grades of the different breeds.

How many silent resolves to breed better stock are made while viewing these grand displays of horse flesh by the lookers-on nobody knows. The influence derived from such shows is far-reaching, and no doubt the advancement made in improving our horse stock is as much due to them as anything else. Importers and breeders everywhere recognize this fact. Shows are made where the premiums offered can't begin to cover cost. Yet after year after year handling pure-bred stock make these displays, satisfied that it pays them well to do so. The mere matter of advertising their own stock is one motive for so doing; but in taking a broader view of the matter it must be conceded that this should not be the main object at all. Those who have made a circuit of fairs this fall, or made any shows whatever, can rest assured that they have done the cause of raising the standard in horse breeding much good, even if they have not received the premiums which they expected. The proper way to look at these matters is to do that which is for the general good. Now if our fair associations will arrange their premium lists so as to give the different breeds a fair show in their respective classes, even if the premiums are not so large, we will promise them a better show in the future.

C. B. T.

## NOTES UPON THE PARIS EXHIBITION.

The Show of Horses—Comments upon their Breeding and Characteristics.

From our Paris Correspondent.

Paris, September 28.

Before examining the special features of the very excellent International Horse Show, a few glances on the 1878 exhibition, may not be uninteresting. The latter show was, like the recent one, held in September 1st to 10th. It is a month generally cool, and when the stallions have finished their season, and the mares are able to be separated from their foals. The time is also more suitable for the transport of the animals, and for their stabling.

In 1878, a physician and three assistants were charged to medically look after the employees and visitors. The animals were cared for by a first class veterinary surgeon and three aids. There was also a staff of polyglot interpreters, and a special service for the feeding and watering of the animals. The grooming was performed by 36 ostlers drafted from the governmental *haras*, or breeding studs, and 100 cavalry soldiers cleaned up the stalls and building every morning at break of day.

In 1878, there was no classification of the horses by nationality. There were 113 jurors, of whom 62 were elected by France and 51 by the exhibitors. The total number of entries was 1,058, of which 795, by France; 91 by Belgium, 67 by England, 36 Hungary, 27 Russia, and 20 by Austria proper. The total 1,058 exhibits, were divided into 38 categories; the juries awarded 244 gold medals, value \$1,882 fr.; in addition to money prizes or bounties amounting to 116,000 fr.

No pure Arab horses, that is, those peculiar to the plains stretching from the Red Sea to the Euphrates, were represented. Indeed it may be said that private industry does not take cognizance of that breed. The French has timidly try to keep it up. However, the nearest approach to the pure Arab, was a horse from the royal breeding stud of Hungary. S range, it was then the opinion that pure blood English horses had degenerated both in England and France, and this was attributed to the intense passion for commercial racing. At present, when this passion is just at the zenith of its intensity, the opinion is quite the other way. Hack racing does not improve horses.

The judges held that the Anglo-Arab is the finest saddle horse in the world. They are the stallions of this breed which keep up the supply of horses for the French cavalry. The Normandy was in 1878, run close by the Vendee race; the horses from Flanders and Hainault excited no little astonishment from their huge size; but the Clydes were preferred, only they had too much flesh. It was Queen Victoria bought the pick stallion in the race of Percherons for the Hampton court stud. In 1878, France had no trotters.

Let us examine and measure the changes accomplished during the past eleven years. Since half a century, France has labored to improve her native breeds of horses by a liberal introduction and mixing of pure Arab and English blood. This has given birth to many "derivative," or half-blood races. But while this developing and ameliorating many indigent races, no breed has been preserved pure, and some have died out—the type Limousin for example. Indeed there are hippists of decided views who go so far as to maintain that there are now no Percheron, Ardennes, or Boulougnese horses; that the old Norman carriage horse, with powerful chest, round neck, and square foreleg, no longer exists, due to over-refinement by English blood.

Putting aside these points, more or less academic, the 1889 exhibition demonstrated a high degree of perfection in saddle and carriage horses—the out-put of the environment of modern luxury, refined civilization, and mild, studied care. For it is rare that a horse of a good breed, when treated with watchful attention and kindness, will prove rebel to such treatment. The racing breeds,

far from justifying the dark forebodings of the 1878 public, have scored veritable victories. Studs have multiplied, and the quality has kept pace with the augmentation of numbers. Thanks to English trainers, French stallions are now peculiarly rich in beautiful racing animals. There can be no doubt that the race-course exercises have the happiest influences in ameliorating horses, provided the dams possess good native points, and the sires a privileged stock of good blood. The exhibits from Normandy, Western Brittany, the Cotes du Nord, Vendee, etc., illustrate and attest these truths. Horse breeding is remunerative, if to a sound knowledge of the subject there be added time, patience, and capital. A good horse can ever count upon finding a good market, and a remunerative price.

Trotting horses only existed in name at the 1878 Exhibition. In 1889, a few sections had been created for breeds possessing special trotting features; rapid steppers, in a word. It is not the American trotter as yet, but an improving up to the ideal. The Americans have created in the environs of Paris, a race course exclusively for trot competitors, where the prowess and the aptitudes of the trotter can be demonstrated. The States carry off the best Percherons from France; they seem decided in return, to floor France with trotting horses, as they do with corn. Perhaps the salient feature of the 1889 show was the display of draught horses. The committee divided these into the races Percheron, Brittany, Boulougnese (Sar-nur), Ardennes, and their "derivatives." The latter classification is prudent.

There were 84 Percheron breeders who contributed entries. How many of the animals were pure? Nothing is more fallacious than to conclude that a horse foaled in Perche, is a Percheron. Perhaps the Percheron farmers are more rascals than breeders. The ancient race of Percheron has been modernized into dodo rarely. Percheron foals are now sought for in France, in regions where that race has never penetrated. Perhaps the same remarks will apply to the race Ardennes. How many pure specimens of it exist? The fact is, the Flemish, or rather the Hainault blood—an excellent blood besides—has infiltrated into the vigorous veins of the Percheron, imparting to the race a heaviness or strength, exacted by contemporary wants. The races of Brittany and the Cotes-du-Nord are not pure. Their height, their powerful and well-balanced members denote Norman and Ardennais blood. However, the metamorphosis is anything but regrettable.

But the three typical draft races were the English, the Belgium or Flemish, and the Boulonnais. The light variety of the latter has become unnecessary since railways have superseded mail coaches, post-chaises, and fish market vans. The Boulonnais seem destined to supply the United States with "Percherons," and Belgium is actively furnishing France with blood for her Boulonnais.

Belgium has every reason to be proud of the triumphs she has scored for her Flemish and Ardennais—the latter common also to France—horses. She has really swept up gold and silver medals and diplomas. Some splendid Clydesdales were shown, and that it would be only bringing coals to Newcastle to describe; suffice to say, they made a most favorable impression both on judges and visitors. Some of the animals had a shoulder measurement of 63 inches; were of rare perfection; patient; full of calm courage; of working muscle—not ornamented flesh; magazines of strength, and of ceaseless power.

## Horse Gossip.

HAPPY BEE, by Happy Russell, a two-year-old filly, trotted a mile on Friday of last week in 2:39 1/2.

F. MESSENGER, of Hillsdale County, has sold his stallion De Soto to E. G. Fay & Son, of Bryan, O., for \$1,500.

HENDRY won the \$1,000 purse in the 2:19 class at Terre Haute, Ind., on Tuesday last, with Almont second. Time, 2:20 1/2, 2:19 1/2, 2:21 1/4.

In the free-for-all pacing race at Sacramento, Cal., on September 19th, the starters were Adonis, Gold Leaf and Yolo Maid. The latter won in straight heats; time, 2:12 1/2, 2:14 1/4 and 2:15 1/2.

The letter from our Paris correspondent in this issue, giving a report of the exhibition of horses at the Paris Exposition, will be found very interesting reading. It furnishes strong corroboration of what the FARMER has repeatedly claimed regarding the breeding of French horses.

The stallion Palo Alto, by Electioneer, dam the thoroughbred mare Winnie, has reduced his record to 2:13 1/2, trotting in the third heat of a race in California. Of course Palo Alto does not know that he has no right to do any such a thing, for the *Breeder's Gazette*, and Mr. Wallace have decided that a horse bred as he is cannot be a trotter.

In the futurity stakes for three-year-olds at Cleveland on Tuesday last, the winner was Margaret S., by Director, while Palo Alto Belle, by Electioneer, was second, and Fortune third. Time, 2:23 1/2, 2:22 1/2, 2:24. Margaret S. has trotted below 2:20 in previous races. The first horse got a cup valued at \$1,000, and \$1,738 in cash; second, \$1,068 in cash, and the third \$534.

FOXHALL, the great American thoroughbred, who won the Grand Prize of Paris, the Czarowitz, Cambridgehire and Asot Gold Cup on one season, and is now owned in England, will be sold during the Newmarket meeting this month. He has not come up to expectations in the stud, it seems. Were he brought back to this country he would probably do much better.

A RECENT addition to the trotting sires of Michigan is the stallion Fellowship, now owned by Charles E. Bennett, of Jackson. Fellowship was sired by Franklin, by Gould's Clay, a son of Neave's Cassius M. Clay Jr. So, his dam was Maid of Franklin, by Mambrino Plot 29; 24 dam, Nina Neave, by Neave's C. M. Clay Jr. 20. Mr. Bennett is said to have paid \$2,500 for Fellowship.

The value of brood mares is increasing rapidly among breeders of trotters. The filly Palo Alto Belle, 2:25 1/2, has been rented out for one year to raise a colt, for which her owner receives \$5,000. She is to be bred to Alcantara, 2:23. In blood Palo Alto Belle is a full sister to the noted Bell Boy. And the mare Alma Mater, dam of Alcantara, 2:23; Aloyce, 2:27; Alicia, 2:29; Almar, 2:29 1/2; and Arthur, 2:30, cost Sam Gamble, her breeder,

ent owner, \$15,000 when 17 years old. A speed producing mare is a fortune to her owner.

Will the managers of county and district fairs allow us to make a suggestion? It is that in arranging premiums on grade classes none be offered on stallions. The use of grade stallions directly conflicts with the very objects for which such premiums are offered—the improvement of the general class of horses raised on the farm. Premiums on grades other than stallions will help this improvement by showing farmers the result of using pure-bred sires. With such sires, as plenty they are in this State, the use of grades should be discouraged in every way possible.

Says an Eastern paper: "The three-year-old stallion Allerton, stable companion to the wonderful Axtell, 2:14, went lame in his last race, and was drawn after trotting two heats. He got a record of 2:18 1/2 in the fourth heat of a race not long since. It was the 'last straw' that broke the camel's back.' There is a limit to the endurance of every colt, and it is always safest to stop before reaching that point." The Michigan horses Gene Smith, Alcyon and Juneau are each examples of failure from overwork. Last season Juneau, a very game young horse, was completely worked out, and this year was a disappointment. The close of the present season shows Gene Smith and Alcyon to be in about the same condition, but as they are older they may not show it so much next season.

The death of Don Cosack, resulting from a cold caught at the Detroit Exposition, was a severe loss to the Caton Stock Farm. He was a great show horse, and sired stylish colts with some speed, which they invariably got early. They were not so speedy as those from many other sires, and we doubt if a very fast one will appear among his descendants. He was finely bred for speed, his sire being Belmont, a son of Hambleton, and his dam by Alexander's Abdallah, a cross that has produced game and fast trotters. Don Cosack was an ideal type of a carriage horse, over 16 hands high, rich bay in color, very stylish and handsomely proportioned. We would like to see a hundred just such sires in Michigan. Matched carriage teams of the best type could be bred from them with as much certainty as from any breed of horses known.

## The Farm.

## Future of Cattle.

A gentleman who possesses unusual facilities for acquiring accurate information touching the range cattle interest remarked in our hearing a few days ago that from the best data he had been able to gather he was satisfied that the product of cattle on the range, that is, the actual raising of the calves, had fallen off at least sixty per cent within the past three years. He remarked in this connection that the reason why this great reduction in the product of the range country had not already seriously affected the market for beef was found in the fact that the supply of three-year-old steers has been greatly lessened; it was when the range product—the calves of this and the preceding two years—began to come into the market that he began to speculate on the probable result of this range supply upon the general cattle interests of the country. Our friend argued that the production of cattle on a large scale on free ranges was practically a thing of the past, that henceforth both food and shelter must be provided, excepting a few favored localities. He added that alfalfa, produced by means of irrigation in the valleys, must be the chief resource of the winter food, but that when it came to this most of the advantages which these cattle men had hitherto enjoyed over those of Illinois, Iowa and Missouri would be gone. It seemed to be his settled opinion that the country would wake up to the fact in a year or two more that little short of a beef famine would be upon us, and that ultimately the production of beef would be relegated to the great corn and grass producing regions of the Central West as the place where beef will be permanently produced cheaper than in any other part of the United States.—*The Western World.*

## Potato Notes.

Our potatoes were planted on dry, stony hillside land. The growth of vines was immense and on suitable land wet weather seems to suit them. They were planted deep by marking out and covering with a two-horse plow. They were dragged with a spring-tooth drag twice before coming up and cultivated whenever the ground was dry enough, which was but little.

The varieties were Hebron, White Star, Griswold Seedling and Monroe Seedling. The blight attacked them in the order named and all but the Monroe have rotted. Treated alike and in the same field not one of the latter has been found decayed, and I believe the blight was communicated to them from the others, as it commenced next to the others and gradually extended across the field. The Griswold Seedling is the American Giant under a new name and has been the largest yielder in this section, until we obtained the Monroe, and the objection of being poor in quality and liable to rot. The new variety, the Monroe Seedling, is very fine in quality, being nearly equal to the Hebron at this date, although a medium late variety and the only kind we have that is giving a satisfactory yield this year. It has proved a good investment at two dollars a bushel for the seed, which was purchased direct from the introducers.

The blight attacked the potatoes in the order they were planted, and the rot commenced in each field at about the same length of time from the first appearance of the blight. Those tubers deepest in the ground are least affected by rot, and I think that after the blight commences there must be sufficient time for the growth and maturity of the seeds of the parasitic plant which causes the blight and rot, before the rot will be found. If the seed drops to the ground and is carried by water to the tubers, those deepest would be the last to be affected, which seems to be the case. Some rows had dirt plowed on to them with a plow, some had the tops mowed off, and some were pulled, and some of the potatoes were dug as soon as the vines were dead in August, by way of experiment. The result was the same in all cases, as the hot, dry weather stopped all rot, in all cases, in the ground and out.

Those who make a business of growing potatoes are nearly through digging, and

the average is about 100 bushels merchantable potatoes per acre, which is from 1/3 to 1/2 the average yield. The yield will be from that down to 15 bushels per acre. The average yield will be perhaps 50 bushels.

The price is to-day 40 cts. at the car, but nearly all are storing for higher prices. We are having a wet week and the rot may commence again. We lost one hundred bushels per acre by rot last year in a week, and I am sorry the balance of ours are not safe in the cellar.

We never store in barns or out-buildings, but draw at once to the bins. It costs some of my neighbors as much to handle over their crop several times as it does us to grow them. The ground is unusually hard this year, and two different dollar diggers have come and gone again. We are now using a plow which turns the rot bottom side up. After picking we drag and then plow the entire ground for wheat. One small boy follows the plow the second time and the driver picks up any he may see, when dragging for wheat, he having a potato crate fastened on the drag.

This may sound like "puttering," but help is scarce, and we dig five times as fast as by hand, and our ground is ready for the wheat drill.

The problem is "How to secure a profit from the crop any year regardless of price, yield or labor." Ours cost 20 cts. What did yours cost? That is what decides the question of profit.—*C. E. Chapman, in Orange County Farmer.*

## Machine for Husking Corn.

A machine which can be made to husk corn rapidly and well will fill a place in agricultural machinery known as a "long felt want." A Southern Ohio man mentions, in the *Country Gentleman*, a new invention which promises to fill the void: "The machine for husking corn, and at the same time chaffing the fodder, was in operation, and will, I think, do all that is claimed for it, namely, husk perfectly clean every ear, and deliver it in the wagon, while it cuts the fodder short and elevates it to the place where it is to be stored. The machine is very simple, and probably will not be costly when once it can be sold to a manufacturer busy making them, but like any new thing it must work its way into public favor. I did not examine it critically, but it looks as though it could be built as cheaply as a binder. The corn, as taken from the shock, is fed but first between rollers, which crush the stalk but will not let the ear pass through. The ears drop on to two cylinders, which revolve towards each other, and are set at an angle so as to pass the ears along to an elevator which deposits them in a wagon. I think, with dry corn, that nearly every ear will be husked by the rollers, but if any husks remain, the cylinders are provided with spurs which take them all off. At the State fair they were husking corn at the rotating ear stage with it, and it did not leave a husk on it.

"Another machine that I was greatly interested in was one for cutting and shocking corn. It was intended to be drawn by one horse walking between two rows, both of which it cuts. Two men ride, and the one angling knife approaches the hill of corn, they catch hold of it, and when it is cut, set it against a lever in the middle of the platform. When the shock is large enough, the horse is stopped and two ropes attached to the rear of the lever are brought round the shock, and being provided with iron hooks, are in an instant fastened together. One of the men now turns a crank at the front of the lever, which draws the top of the shock together, and the other man lies it, and then the lever lifts the shock up and sets it down square on the ground at the rear of the truck. I did not see this machine in the field, and am not sure that it would be found practical; but it is a pioneer, and the day I believe is not far distant when corn will be cut, and perhaps shocked by machinery. There are many inventors now at work on this problem, and undoubtedly it will soon be solved."

## Corn the Best of Feeds.

A correspondent of the *American Poultry Yard* writes: I do not propose to go into a scientific analysis of the various foods to show which contains the most fat, which the most starch, and all that, because I recognize one fact, and that is that something besides the bare constituents of the food which we feed to our fowls must be considered. When we feed corn to our fowls we must remember that corn and water are not absolutely all that the fowls take into their crops; they are supposed to eat some green food, some meat food, some lime, and various other things which they pick up here and there, and which we know nothing about. Analysis tells us the component parts of corn and water, but does not tell us what influence all these other things which occupy the fowls' gizzards at the same time have upon the corn and water; therefore, we experiment carefully, and when we get through experimenting we ought to know about what we are doing. We have all heard that corn is too fattening for fowls and does not produce eggs. I will say that I take a flock of Leghorns as soon as the grass starts, and give them their freedom, with nothing in the form of food provided for them but corn and water and shell, and they will beat any flock of the same size fed by the most improved bill of fare. So much for corn. It is, and always must be, the main stay. To be sure, the Asiatic breeds take on fat easily, like the Berkshire swine, and must be fed accordingly; but we are not considering Asiatic fowls now, and although some of the other breeds may sometimes—when advanced in years—get fatter than is good for them, still corn is the main thing after all.

## Agricultural Items.

A PRINCE EDWARD COUNTY farmer cleared 3723 from two acres of land. He raised peas and sold them to a cannery factory.

The new "butter extractor" was on exhibition at the New York State Fair, but did not seem to take well with farmers, and dairymen, who distrust it and the quality of its work.

The trench system of culture of potatoes, which is a hobby with one of our esteemed agricultural contemporaries, is almost universally conceded by those who have tried it to be good for a small plot but too expensive for field culture.

A 2800 Holstein cow belonging to David Sherman, of Dutchess Co., N. Y., got choked with an apple. One of his men tried to push the apple down with a broom-stick and in so

doing punched a hole through the food pipe. The cow died in a few moments.

ORANGE COUNTY butter, which was once quoted high as the best in the New York market, is now a thing of the past. Scarcely a tub of butter from this locality finds its way to market. The milk is shipped to the great metropolis, and forms no inconsiderable factor in the supply.

Get your farm machinery under cover. Do not leave the machines where they were used, to be exposed to storms and rusted by rains. Such exposure will damage them more in one season than two years' use. The farmer's negligence in this respect is the dealer's opportunity, and has poured wealth into the hands of the manufacturers.

SWITZERLAND'S milk production is put at 330,000,000 gallons annually; of this total, 12,000,000 gallons are goats' milk, of which the little republic has 418,323. The government takes charge of the forest lands, which cover two million acres. There is not a coal mine nor a good peat bog in the country the care and preservation of the forests are of prime importance.

C. M. WERN, of the Ohio Experiment Station, has experimented with the Bordeaux mixture as applied to potatoes for the prevention of rot, and reports good results, the treatment also apparently reducing the amount of scab affecting the tubers. Mr. Wern also says that adding London purple to the Bordeaux mixture in the proportion of one ounce to ten gallons of water makes it also effective against the ravages of the potato beetle.

J. M. STARR, in the *Country Gentleman*, says: "In some things we have not made much progress. If we used mature swine in breeding we would have far less swine disease. There is only one practical prevention of swine plague or hog cholera, and that is an animal with sufficient vital force to withstand the contagion of the disease. Such a hog is possible when mature animals only are used in breeding; but not when immature animals are used year after year, and their weakness is accumulated."

Bolls and Pimples and other affections arising from impure blood may appear at this season, when the blood is heated. Hood's Sarsaparilla removes the cause of these troubles by purifying, vitalizing and enriching the blood, and at the same time it gives strength to the whole system.

## The Poultry Yard.

MIDDY MORGAN says it must be remembered that as a nation the Americans prefer turkey to any other variety of poultry, and growers should keep this clearly in mind. He also says that the varying prices through the year go to demonstrate that it is quality, not quantity, which makes the rate. Chickens of good quality are always scarce.

A CORRESPONDENT of the *Country Gentleman* says as early broilers the Brown Leghorns cannot be mentioned in the same day with the Plymouth Rocks, two of the former making little more show on the table than one of the latter. No matter how fat and gawky they look they are fat, tender and juicy.

M. BOYER says, in the *Germania Telegraph*: "We have found the use of vinegar most valuable in the cure of soft crop in fowls. It is also recommended as one of the best tonics for asthmatic or rattled, diluted with water. In the latter case a teaspoonful every morning is the dose. In soft crop, we put just enough vinegar in the drinking water to acidulate it."

A LADY who details her poultry experiences in the *Orange County Farmer*, describes the home-made brooder she made for her chicks: "My brooders are boxes with lids, lined with old burlap, with strips of cloth sewed on, then tacked securely to the lid. I use goods that will not rot, cut bias, strip three inches wide, and as deep the lid, fold it in the middle and slip it into strips about one inch in length, then sew the long strips through the middle, and that leaves the clipped edges hanging down when the lid is on. Cut enough of these to fringe the lid. The chicks nestle in these fringes. The boxes have one side turned out, to let the chicks run in and out at pleasure. If the nights are cool I bring the boxes in till the chicks are a week old, then leave them out under shelter, with a piece of old carpet thrown over the top, and board in front to keep out rats."

The *Poultry World* vigorously protests against overcrowding, saying: "It is nevertheless the fact, that no matter how thrifty the chickens may be when gathered upon your premises, and placed in their future breeding quarters, if you get too many in a mass for the size of your buildings, they will shortly get ill, the pullets will cease to lay, the old fowls will grow dumpty and sluggish, lice will generate inconceivably upon their bodies and all over the interior of the houses, and misery, debility and general destruction will follow as surely as this error in their management is committed. If you would have them healthy, vigorous and profitable as layers, give them room to circulate and exercise in. Furnish them with good, sound food, clear water, and ample ventilation of their houses. And never forget that it is the poorest of all poor economy to undertake to get satisfactory returns from hundreds of fowls that are stowed up in the space that only a few scores can live and breathe and move about comfortably in."

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## Horticultural.

## WASHTENAW POMOLOGY.

The October meeting of the Washtenaw Pomological Society met at the usual time and place, with Mr. J. D. Baldwin in the chair. The following members reported a very satisfactory harvest and most satisfactory fruit prices for peaches: Wm. McCreary, J. D. Baldwin, J. J. Parrish, Mr. Ganzhorn reported an unsatisfactory grape crop and still more unsatisfactory prices. The advanced prices on apples gave general satisfaction. New York and Ohio had hardly any apples and eastern buyers are eager to buy Michigan apples. Mr. Clough reported the prices of berries very satisfactory. All were satisfied that the committee on transportation did a most efficient work. It was resolved that those who shipped with the Ann Arbor fruit car should settle at once their dues per bushel at the shoe store of Mr. L. Gruner.

Mr. Wm. McCreary exhibited the largest Baldwin apples the Society ever had on their tables. Mr. Baer exhibited the following pears: Superfine, Busscock, Anjou, Sheldon, Bosc, Mount Vernon, Lawrence, Oconada, Kieffer, Winter Nela, D'Arenberg. The committee on fruit preserving reported that the Messrs. Allmendinger & Schneider had not fulfilled their contract in so far that canning of fruit was not yet carried on in their factory. Some complaints were made on account of very small prices paid for apples by the fruit factory. It was stated that another fruit dryer had been started in the former Voiz brewery.

The members present bore testimony to the great loss the Society sustained by the sudden death of Prof. B. E. Nichols, and a resolution was passed that the secretaries of the Society be instructed to prepare resolutions to that effect and to publish said resolutions in the city papers and transmit a copy to Mrs. Nichols.

The following resolutions are respectfully submitted: Resolved, That the County Pomological Society lost in the late Professor Benjamin E. Nichols one of its oldest, best and most efficient members. Engaged in pomological pursuits over a quarter of a century, the Professor was one of the founders of this Society, being present when Hon. J. Austin Scott called the first meeting for the establishment of a county pomological society. We cherish and honor his memory for the nobility of his character, for his cheerful and upright ways among us, and for his progressive work in horticulture.

Resolved, That we extend our innermost sympathy and condolence to Mrs. Nichols and her two daughters, believing truly that the blessings so richly dispensed in all the offices of doing good by the dear husband and father will permanently remain with them.

## THE COMMITTEE.

## Banished the Peach Borer.

A New Jersey peach grower says he successfully repels the peach borer by washing the base of the tree trunks with the following: "For 3,000 trees, use 100 lbs. caustic potash, one barrel lime, one gallon crude carbolic acid, two lbs. white arsenic."—London purple is better, as cheap, and far less likely to lead to serious accidents—"and water enough to make 300 gallons of wash." I tried and recommended a somewhat similar mixture nearly twenty years ago. But why the advice to apply with brush to the trunk just above the surface of the earth in May or June? Here in Michigan the moths come forth in July and August, and so lay their eggs in these months.

As this treatment is to prevent egg-laying and to kill the newly hatched caterpillars as they begin to tunnel the trees, to apply it earlier than July 10 in Michigan would be a mistake. New Jersey may be a little earlier than Michigan, but the difference cannot be more than a few days. With this amendment I can vouch for the value of the above. On the whole, however, there is no safer, cheaper or more satisfactory method to fight this pest than to dig it out in September and May of each year. This method has nearly banished the pest in the far-famed peach belt of Michigan.—Prof. A. J. Cook, in N. Y. Tribune.

## Burbank's Horticultural Experiments.

The originator of the Burbank's Seedling potato is now in Sonoma County, California, still experimenting in raising new varieties of fruits and vegetables. According to D. B. Weir, in the Pacific Rural Press, the Burbank was raised 16 years ago in Massachusetts, and was introduced to the public 12 years ago. Mr. Burbank now devotes his time exclusively to experimentation, and is said to have grown during the past few years, 300,000 apples; has fruited a few thousand pears, 1,500,000, from 20 leading varieties—750,000 from Bartlett alone; none equal to the old 200,000 apples; promising Quinces, 30,000. Mr. Burbank is determined to produce a quince with as melting pulp, and higher and purer than a pear. Almonds, 200,000; good showing. Nectarines, 5,000; these 5,000 will settle some mooted points, and give some fine varieties. Logans, 2,000; not yet in fruit; hopeful. Currants, 20,000. Gooseberries, 5,000. Raspberries, 50,000.

"I had rather be the originator of Burbank's best raspberry than be President of the United States. To get at the exact size of this fruit, we gathered it, and all others in fruit in the same soil and culture at the time, just as we would for the market, and weighed an ounce of each, and found the following number to weigh an ounce: Gregg, as grown here, 28; selected berries, as grown in Ohio by Mr. Albright, 15 reported; Hansell, 26; Sonhegan, 23; Beebe's Golden, 20; Marlboro, 15; Davidson's Thornless, 30; Gold- en Queen, 18; Brinkley's Orange, 18; Shaffer, 13; Burbank's new berry, 8½ to ounce.

"This wonderful new raspberry is a seedling from Shaffer's Colossal, the largest berry in the above table except the new one. The Shaffer is taking the lead over all other varieties east as a canning and drying berry, and it should here. Its faults are that it is too dark-colored, being a dull, dusty red, and is too soft for market. It is the richest of cooking raspberries. The new one is much brighter colored, very much finer in flavor, nearly double as large, and—well, to be safe, I will say only four times as productive as it or any other berry. I think I would be safe in saying it will give six times the fruit of it or any other raspberry, and safe in saying that one 'hill' or stool of plants will,

in the course of a year, produce sixteen times the quantity of fruit of any other fruit not having the habit of fruiting in autumn and winter. This habit the new berry has in the greatest degree, not only giving an enormous crop of its immense berries at the usual time, but great masses of fruit through autumn and through winter, if mild. This habit is against its ready propagation, for instead of making 'tips' in August it makes fruit, and lots of it. Mr. Burbank finds it grows poorly from root cuttings; therefore if some new way of increasing it readily is not found, its profit to the originator will be small."

This is only a part of the work Mr. B. is engaged in. If the writer is correct, equally wonderful numbers of dewberries, blackberries are among them. Trees, shrubs and flowers in enormous quantities are also mentioned, and great results are already obtained. California has given the world many surprises, and the quantities here quoted are certainly a fit subject of surprise.

## Picking Apples.

The Ohio experiment station made an experiment last year to determine the effect of early and late picking upon the keeping quality of apples. The experiment was conducted by W. J. Green, and was begun Sept. 23, when all the varieties were considered sufficiently ripe to pick. The varieties were Baldwin, Roxbury Russet, Newtown Pippin, Jonathan, and Ben Davis, and 100 perfect apples of each were selected at each of four pickings, viz.: on Sept. 26, Oct. 6, Oct. 13, and Oct. 20. They were weighed, and stored in crates, in an ordinary cellar, and were weighed at frequent intervals during the experiment, and rotten apples removed at same time. At the end of two months no difference in keeping qualities between early and late picking could be observed. Baldwin, Roxbury Russet, and Jonathan showed a difference in favor of early picking before the expiration of six months; but Newtown Pippin and Ben Davis showed no difference until after the expiration of six months. After the expiration of six months the difference between the early and late pickings increased until the close of the experiment, 256 days from picking. The final conclusion drawn by Mr. Green is as follows: Early picking improves the keeping qualities, but no difference is manifest for nearly six months. If kept more than six months early picked apples show a decided gain over late picked. The greater part of the loss in weight, caused by drying, occurs within six months. Early picked apples lose slightly more in weight than those picked late.

Two months after picking, the average loss in weight was as follows: Baldwin, six per cent; E. Russet, 15 per cent; Jonathan, seven per cent; B. Davis, five per cent. Fifty-eight days after picking there was little difference in the Baldwin of separate pickings; 175 days after picking there were 67 sound ones of the first picking, 49 of the second, 36 of the third, and 26 of the fourth; in 256 days there were three sound ones of the first picking and none of the other three. The following table shows the number of sound apples of each picking, 256 days after they were picked:

	1st.	2d.	3d.	4th.
Baldwin	8	0	0	0
Roxbury Russet	5	1	1	1
Newtown Pippin	13	8	6	1
Jonathan	11	4	2	0
Ben Davis	48	33	12	12

This experiment is useful also as showing the comparative value of the five varieties in keeping qualities. Ben Davis stands away ahead at all stages of the experiment. We would suggest following up the experiment with others including more varieties and different methods of keeping. One of the finest lot of apples we ever saw come out in the spring, say 300 days after picking, lay on the barn floor all winter, with just enough buckwheat chaff over them to keep them from freezing.—Ohio Farmer.

## The Development of the Chrysanthemum.

The chrysanthemum has many varieties. It has yellow, white, red, purple, or variously colored flowers. The native horticulturists have found it comparatively easy to modify its appearance and color. There is an old statement that the Sochoow gardeners take it when it is a foot above the ground and pick off the terminal bud at the top. After a few days the one bud originates two. These again are decapitated and a similar result follows, so that when autumn arrives the number of flowers on one stalk is very great, and they grow into a sort of round hemisphere like a cart covering.

It was the early discovery that modifications in the flowers could be produced in this way that led the Chinese to attach so much importance to this flower. It was about A. D. 430 that it became a special garden favorite and was valued by the poets. Tan Yun Ming, of that time, was very fond of it, and a search especially in his poems has resulted in the fact that he classed it with the pine for endurance. The petals remain in their places after the winds and storms, and it was this feature in the flower which he admired. The Chinese represent yellow as the natural color, and they add that white aster after a year or two are apt to change back to yellow. In some varieties the flowers are deciduous, and in others not so. A pale yellow changes to white after the plant has flowered with unusual luxuriance; and white, in the same way, when exhibiting a tendency to variation, becomes red. Such flowers wither on the stem. When the petals are far apart they are apt to fall early and after the full period of blossoming, they gradually drop off. If wind and rain should come and shake them, they all fall off together and cover the ground. Such observation of a flower as this is an example of the pains taken by the Chinese in the study of nature. The Sochoow gardeners mentioned mean of course the gardeners of the great plain of which Sochoow is the capital, and Shanghai with Tai-sang and Kiang yin are particularly noted as having a climate or soil, or local skill in horticulture, which greatly favor the variability of the Chinese aster. From the statement made it is probable that there is no part of China where there is more success in cultivating the China aster or more variety in it than in the gardens of these cities. There are coarse and fine varieties. Some chrysanthemums grow to ten feet in length, and some disks are as large as a saucer. Two colors appear on the same flower. These are called color varieties. The finer include velvety sorts and those which are cylindrical in shape, or turn to

the west, or are indented like wolves' teeth. Those which are most valued in China are flowers which begin with being small and grow larger, and petals which are close set, numerous and fresh in color.

The chrysanthemum flower is fabled by the Chinese to have the power of conferring immortality. To obtain the result it must be eaten with the fruit of the wutung by the believing. In Szechuan there is in the Confucian temple of the capital of the province an image of the genius of the chrysanthemum. The being represented is said to be a girl who drank the wine of the chrysanthemum flower in the Han palace, and thus became immortal. Those students who pray to be successful in the examinations. In a cave of the same city there is a painting, drawn upon the wall, of a woman holding a chrysanthemum in her hand. Before her is represented a monkey. She is called "The Lady of the Chrysanthemum," and students who pray to her have remarkable dreams; the indications conveyed in these dreams are, wonderful to relate, sure to come true, say the native accounts. The chrysanthemum sinense has probably for two centuries been well known in Europe. The flowers, whether of the ray or the disk, are never blue, but they appear with almost every other possible color. The books say that the Chinese must for long ages have been carefully improving the plant, and that their great richness in development and in variety of properties has risen from sporadic peculiarity and intermixture with allied species unknown in Europe. This last effect would be caused by insects bringing with them in their visits to the flowers the pollen of neighboring plants.

The remarkable variability of these plants is partly due to an excellent constitution, which allows them to be easily propagated by cuttings. About half of the flower heads should be destroyed to increase the size and beauty of those which remain. Not being delicate, pegged down near the surface of the ground—and the beauty of a garden plot is remarkable in this way, so restricted as to rise only a few inches from the ground—European gardeners obtain seeds from widely different localities, and aim by mixture to rival the handsomest varieties introduced from China. We must subtract the legendary element generously and recognize a true love of natural beauty in the great attachment which the Chinese have for the peony, the plum flower, and the China aster, which have been favorites for fourteen hundred years or more. This is one of the main sources of the development of modern Chinese painting. In which these flowers have had as much attention as baskets of fruit among the painters of Holland.

## Fern Culture.

Ferns are easily cultivated if a few practical details are observed. Growing in their native habitats they are, for the most part, found in shady positions, where during their growing period, they have an abundance of moisture at their roots; therefore, under cultivation, a shady window is for the most kinds more suitable than a sunny one, and during their season of growth a good supply of water at the roots is demanded. While it is necessary for their success to have an abundance of water, they are at the same time very impatient of a stagnant soil, and to prevent anything of the kind occurring, perfect drainage is indispensable. Not only is drainage a necessity in the cultivation of ferns, but it is also needed in the culture of all kinds of window and greenhouse plants after they have attained a certain size. No plants do I know, except aquatic, that succeed in a soil from which the water does not pass off freely. Plants growing in pots six inches in diameter and over should have good drainage. This may be done by placing over the hole in the bottom of the pot a piece of broken pot, over this place more of the same material in small pieces; instead of this pieces of charcoal answer well. Fill about one-fourth of the pot in this manner, and over the top place some moss or other rough material to prevent the soil from mixing with the drainage, and thereby preventing the water from passing freely off.

The most suitable soil for ferns is a mixture of garden loam and the black soil found in the woods, about equal parts of each, then with a good sprinkling of sharp sand through the whole, giving more if the loam is clayey and less if sandy.—Vick's Magazine.

## Growing Sweet Violets.

These species of plants nearly always commands a fair market price, violets being generally favorites on account of their sweet and powerful fragrance. The winter care of the plants in such a manner as to give ample returns in bloom, is thus discussed by the Horticultural Times, of England:

Coming to the winter treatment of the plants, it is very important that they should be planted in the frames by the end of September; it is equally as necessary that they should be lifted with a good ball of roots and carefully planted in good soil. It is surprising what a layer of manure, six inches under the surface, will do for the plants; the roots quickly find it out, and good leaves and large flowers are the result. If anyone thinks they can plant violet plants in a poor soil or withholding root moisture, they are very much mistaken. No plants pay better at any stage of their growth for generous treatment than violets, and the grower who can surround the roots of his plants in the frames with a depth of three inches of fresh mellow loam, may consider that his lines are cast in pleasant places, for, if other things are equal, he will be sure of a rich reward of fragrant flowers. I have never grown better violets than when I plant them in a long brick pit after a crop of summer melons, planting them in the same soil without any further preparation than stirring it up with a fork. How well the violets like a mellow loam to grow in during the winter is demonstrated by a gentleman amateur near to where I write, who secures fresh loam from a pasture every year, and no one hereabouts can compete with him in the health of the plants, or in the number and size of the flowers. It is well known that violets suffer a good deal in the winter from damp, both under glass and in the open air, and without saying that it can always be prevented, I do not hesitate to say its effects can be mitigated by judicious ventilation. The frames should not be quite closed, except when it is actually freezing; a low temperature will prevent the flowers from opening very fast, but a low temperature that is not actually freezing does

the plants no harm, while a damp and confined air will cause the leaves to perish.

With regard to the removal of the runners, I regard it as a very important operation whether it is winter or summer, but it is more necessary, perhaps, from the time they are put into the frames to the middle of February than at any other time. The more unoccupied space there is between the plants during the short days of winter, the less likely they are to suffer from damp, as the air has a better opportunity of circulating about them and dry up any excess of moisture. I contend that the test of a man's abilities as a successful grower of violets is the condition of his plants at the end of February. If the leaves are then abundant and healthy, it is quite safe to conclude that he is master of his business. The condition of the plants in November offers no criterion of a grower's capacity. It is successful winter treatment that beats most of us, and the damper the climate and the lower the situation of the garden, the greater is the difficulty experienced in keeping the leaves healthy during the winter; where there is a moderate quantity of healthy foliage there is invariably plenty of flowers.

## FLORICULTURAL.

SPRINGING plants affected with red spider will greatly aid in clearing them of this troublesome insect. They cannot stand a moist atmosphere.

It is noticeable that the varieties of coles, alternanthera, canna, caladium, and other ornamental leaved plants are displacing, to a very large extent, the ubiquitous geranium for bedding purposes.

Sow the seeds of larkspur in the fall as soon as they ripen; then as soon as the plants have made sufficient growth transplant into boxes and winter over carefully. As soon as the danger of frost is over, set them out in the open ground, and they will flower next summer.

The nasturtium has been a society favorite this year. It is very likely to hold its popularity another season. Plant it, therefore, next year, and mass its rich, brilliantly bizarre blooms in vases, where they glow like flame. One color to a bouquet; do not mix your hues.

If you have an unsightly shed or fence in the yard cover it with vines. The climbing nasturtium, morning glory, and scarlet runner beans will grow in almost any soil, providing they can have the sun part of the day, and when in bloom make a brilliant show. They require very little care, outside of a daily watering in dry weather, or a weeding once in a while, and strings for their support. They will repay any labor spent on them.

E. E. SUMMEY said at the meeting of the American florists, in reply to a query as to what had become of Her Majesty rose, that after three years of patient waiting and care he had been rewarded with two splendid blooms—the foliage showing no signs of mildew, and the plant proving perfectly hardy with a light covering of marsh grass. The flower was very double, of a fine, satiny rose color, and of so much substance as to be in good condition for over two weeks. It is slightly fragrant and so pleased was he with it that it will always find a place with him if it only gives one bloom a year.

A VERY pleasant and interesting floral festival was held at South Haven recently. Although it was hardly a financial success, it should have been such had it received the patronage it deserved. The margin above expenses and premiums was a small one, but sufficient to encourage the management to hope for better results at the exhibition which is proposed to hold in 1890. Rev. W. S. Bagby made a very excellent exhibit of seedling gladioli, four years from the seed, among which were some beautiful flowers. Some of the floral designs were fine, and won special premiums. Mr. E. S. Thompson showed twenty-one varieties of single petunias, including one so dark in color as to pass for black.

At the recent convention of American florists held at Buffalo in August, the removal of the duty on bulbs was discussed. Many of the members advocated admitting bulbs free of duty. Florists say they can raise as good out-door bulbs in this country as raised anywhere, and bulbs for forcing cannot be grown here anyway. But our modesty (!), which makes us believe that what we can make ourselves is not quite equal to what some one across the ocean can make for us, still leads us to prefer "imported" bulbs as well as imported cloths and bonnets, even though there are good grounds for believing that not a few of the goods we buy as imported are really of American manufacture.

THE Tiger lilies—*L. tigrinum*—and allied species, are finding favor once more with florists, as their rich colorings, so Oriental in suggestion, are sought by those who are ever on the search for new things—and able to pay liberally for them. A collection of the different varieties would be a very showy and interesting one. It is a good plan to take up the bulbs about every three years, and replant them, giving fresh soil. Grown this way they will produce a much larger quantity of bloom than if left in the same spot after the soil is exhausted of all its nutritive qualities. It is too much the rule for all hardy bulbs and herbaceous plants to be left for several years in the same spot till they are almost starved, and in consequence give but few flowers, which are not half their natural size.

## Horticultural Items.

A MISSOURI man claims the Kettler is the coming pear for that State.

A GRAPE-VINE at Hampton Court, England, has this year produced 1,500 bunches of fruit.

An English writer says: "We shall never want more physic than we now take, nor more law, nor more sermons, but fruit, flowers, vegetables—Yes, double, treble."

THE Horticultural Times suggests that the cause of pears rotting at the core may be soil exhaustion, and prescribes rich feeding, on the supposition that the soil is deficient in nutriment.

MR. L. C. CRITTENDEN, of Fair Plains, has

four acres of flat turnips which are a solid mass of vegetation. He sowed one pound of seed per acre as directed by the seed catalogue, and says that next time he will sow six ounces per acre as directed by experience.]

The high price of refined sugar has operated to diminish the pack of the fruit canning factories, whose owners say they cannot see an increase in the value of their goods corresponding to the increased cost of sugar, coupled with rather higher prices for fruit.

It is impossible for any tree or plant to properly mature its fruit without foliage. Hence it is a grave mistake to cut off the leaves of the grape, tomato, etc., expecting the fruit to ripen better. It may color fairly well, but will be deficient in weight and quality.

THE first carload of dried figs ever sent from California was shipped from Fresno recently. They were of the White Adriatic variety, well cured, handsomely packed and rich in sugar, and went to Chicago. California dried figs as exhibited at the Detroit Exposition were as fine in appearance as any imported goods we ever saw.

A MACHINE has been invented for setting plants, and been used on tobacco plantations in the South. It sets two rows as fast as the horses walk, and waters each plant. One man drives, and two others ride and feed the plants, one at a time, into a wheel which in revolving sets the plant, presses the earth to its roots, and delivers a pint of water to each.

J. H. HALE pronounces the Oldmixon the best eating peach that grows. He planted more largely of it than of any of the others, and expects to have not less than 6,000 baskets of this one variety. He finds that one orchard of this variety on light sandy soil is ripening its fruit ten days ahead of other orchards, and these will all be out of the way before the others come on, and so prolong the season ten days.

THOMAS MEERMAN, in the Country Gentleman, says: "The Wild Goose plum, to be fully productive, appears to require pollen from other trees. By mistake, we tested this characteristic many years ago. Eight trees of this plum were planted in a row, suckers received from a gentleman in Georgia. All bore moderately and one of them abundantly. We wanted only one tree, and so grubbed up all but the productive one. It had depended on the fertilizing from some of the other trees, and when the trees were gone it ceased to bear. The contrast was striking. It was stated, at the late meeting of American Nurserymen, that the Wild Goose was a very good bearer only when fertilized."

## Apiarian.

## A Correction.

BELL BLANCH, Oct. 7th, 1889.  
To the Editor of the Michigan Farmer.

In your issue of October 5th, you speak of Mr. Faulkner as having received the most premiums in the apiarian department of the Exposition, of any individual exhibitor. This is a great mistake as I received double the amount he did, besides getting the silver medal. The books will show that what I state is correct. Yours truly,

M. H. HUNT.

A NEW use has been found for honey, it being used in the preparation of lemonade. It is said to make a very palatable substitute.

AN exhibitor at the Buffalo Exposition showed samples of maple, dandelion, clover, raspberry, linden and golden rod honey; also samples of wax made from cappings during the flows of linden, clover and dandelion. The chief difference was in color of the wax, the clover wax being the whitest.

G. B. JONES, in the Canadian Bee Journal, says he has always discredited the theory that light hastens the granulation of honey until a little observation of the actions of bees placed in the light of a window to allow spectators to watch the processes of storing and sealing, convinced him that there was "something in it." The bees, with every appearance of anxious haste, removed the honey from the combs nearest the glass, in full light, uncapping it and carrying it back and storing again in cells remote from the light although the other combs were crowded.

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Sarsaparilla  
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One Dollar

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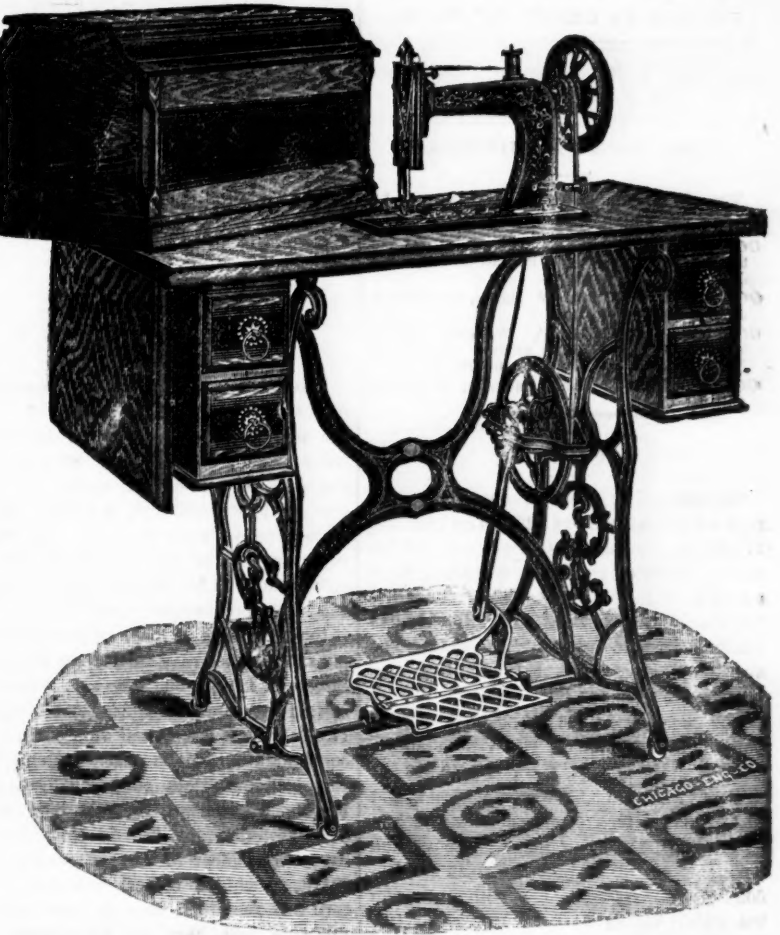
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DETROIT, SATURDAY, OCT. 12, 1889.

This Paper is Entered at the Detroit Post Office as second class matter.

## STOCK SALES IN MICHIGAN.

The following dates are claimed by Michigan breeders for sales of stock:

OCT. 16—Coe Bros., Kalamazoo, Hereford cattle, Percheron horses and Poland-China swine.

J. A. Mann, Auctioneer.

OCT. 22—W. C. Wixom, of Wixom, Shorthorns, J. A. Mann, Auctioneer.

OCT. 24—A. W. Bissell, Pawmaw, Merino Sheep and Poland-China swine. Sale to be held at Ionia. J. A. Mann, Auctioneer.

OCT. 25—John C. Sharp, Jackson, Shorthorn cattle.

## WHEAT.

The receipts of wheat in this market the past week amounted to 236,319 bu., against 175,690 bu. the previous week, and 459,841 bu. for corresponding week in 1888. Shipments for the week were 185,811 bu., against 182,866 bu. the previous week, and 236,945 bu. the corresponding week last year. The stocks of wheat now held in this city amount to 219,597 bu., against 190,315 bu. last week, and 1,046,427 bu. at the corresponding date in 1888. The visible supply of this grain on Oct. 5 was 18,849,813 bu., against 17,553,213 bu. the previous week, and 31,586,885 bu. for the corresponding week in 1888. This shows an increase above the amount reported the previous week of 999,600 bushels. As compared with a year ago the visible supply shows a decrease of 12,687,072 bu.

While there has been a great deal of talk in regard to the position of the wheat market, and all kinds of rumors put about to influence prices one way or another, the change in values as compared with a week ago is  $\frac{1}{2}$ ¢ on spot and  $\frac{1}{4}$ ¢ on futures. There is no doubt the market is stronger, the feeling being induced by reports from European markets, which have been gradually working upwards. There is a better demand for American wheat for export, and it looks as if any change must be towards a higher range of values. The week closes with a slight decline at Chicago, a greater one at New York, and a decline here. Trading in this market is very light, and in many instances just sufficient to determine values. The decline yesterday was attributed to the Government report which will be found in another column. The weakness will probably last about 24 hours, and then we look for a recovery.

The following table exhibits the daily closing prices of spot wheat in this market from September 12th to October 11th inclusive:

	No. 1	No. 2	No. 3	Red.	Soft.
Oct. 1	81 1/2	81 1/2	81 1/2	74 1/2	74 1/2
" 2	81 1/2	81 1/2	81 1/2	74 1/2	74 1/2
" 3	81 1/2	81 1/2	81 1/2	74 1/2	74 1/2
" 4	81 1/2	81 1/2	81 1/2	74 1/2	74 1/2
" 5	81 1/2	81 1/2	81 1/2	74 1/2	74 1/2
" 6	81 1/2	81 1/2	81 1/2	74 1/2	74 1/2
" 7	81 1/2	81 1/2	81 1/2	74 1/2	74 1/2
" 8	81 1/2	81 1/2	81 1/2	74 1/2	74 1/2
" 9	81 1/2	81 1/2	81 1/2	74 1/2	74 1/2
" 10	81 1/2	81 1/2	81 1/2	74 1/2	74 1/2
" 11	81 1/2	81 1/2	81 1/2	74 1/2	74 1/2

Sales of No. 3 white were made at 73 1/2¢, and of No. 3 white at 63¢ per bu.

The following is a record of the closing prices on the various deals in futures each day during the past week:

	Oct.	Nov.	Dec.	Jan.
Saturday	82	82 1/2	83 1/2	84 1/2
Sunday	82	82 1/2	83 1/2	84 1/2
Monday	82	82 1/2	83 1/2	84 1/2
Tuesday	82	82 1/2	83 1/2	84 1/2
Wednesday	82	82 1/2	83 1/2	84 1/2
Thursday	82	82 1/2	83 1/2	84 1/2
Friday	82	82 1/2	83 1/2	84 1/2

Brazil has changed her tariff so as to place a duty upon flour instead of wheat, as heretofore. This is the reason of recent shipments of wheat to that country where flour was formerly sent.

Since Monday quotations on California wheat have advanced in London 6@9d, per quarter (eight bushels).

Reports from Russia say farmers there are not satisfied with present prices, and refuse to sell. They feel certain of higher values prevailing, as the crop has been poor in most sections. The grass crop was a complete failure, and coarse grains will have to be used in feeding stock, which will tend to make other grains scarcer so these cheap grains have generally been used as breadstuffs by the lower classes.

The London Miller says that the English wheat crop is far inferior in quality to expectation, and will frequently require 8 1/2 measured bushels to make up the quarter instead of eight bushels as usual.

Dornbusch, in issue of September 27, says that in Austria-Hungary the export prospects are most unfavorable. The home consumption of wheat is just about covered (by the yield), and that is all. The stock remaining from last year's crop, say 30,000,000 bushels, will be required to supply the deficiency in rye.

From Olesse, Russia, reports say business in wheat is almost at a standstill, and that "the consuming countries seemed to place much reliance upon the reserve of the last crop, but the surplus is not so considerable as had been imagined." It may be inferred from these and other remarks that higher prices have already drawn out much of the surplus.

The following table shows the quantity of wheat "in sight" at the dates named, in

the United States, Canada, and on passage to Great Britain and the Continent of Europe:

	Bushels
Visible supply	17,193,572
On passage to United Kingdom	13,994,000
On passage to Continent of Europe	2,003,000
Total	33,190,572

Total bushels Sept. 31, 1889, 33,190,572. Total previous week, 32,717,450. Total two weeks ago, 31,190,083. Total Sept. 22, 1888, 25,573,175.

The estimated receipts of foreign and home-grown wheat in the English markets during the week ending September 28 were 1,575,480 bu. more than the estimated consumption; and for the eight weeks ending Sept. 14 the receipts are estimated to have been 9,381,504 bu. more than the consumption. The receipts show an increase for those eight weeks of 6,010,816 bu. as compared with the corresponding eight weeks in 1888.

Shipments of wheat from India for the week ending Sept. 28, 1889, are per special cable to the New York Produce Exchange, aggregated 80,000 bu., of which 80,000 bu. were for the United Kingdom, and none for the Continent. The shipments for the previous week, as cable, amounted to 500,000 bu., of which 220,000 went to the United Kingdom, and 300,000 bu. to the Continent. The shipments from that country from April, 1889, to September 28, aggregated 15,400,000 bu., of which 9,300,000 bu. went to the United Kingdom, and 4,100,000 bu. to the Continent. For the corresponding period in 1888 the shipments were 22,440,000 bu. The wheat on passage from India Sept. 17 was estimated at 2,300,000 bu. One year ago the quantity was 3,344,000 bu.

The Liverpool market on Friday was quoted firm, with light demand. Quotations for American wheat were as follows: No. 2 winter, 6s. 10d. @ 6s. 11d. per cental; No. 2 spring, 7s. 1d. @ 7s. 2d.; California No. 1, 7s. 1d. @ 7s. 5d.

## CORN AND OATS.

**CORN.**

The receipts of corn in this market the past week were 7,542 bu. against 11,095 bu. the previous week, and 19,357 bu. for the corresponding week in 1888. Shipments for the week were 1,901 bu., against 4,262 bu. the previous week, and 4,492 bu. for the corresponding week in 1888. The visible supply of corn in the country on Oct. 5th amounted to 11,511,974 bu., against 10,933,595 bu. the previous week, and 10,013,353 bu. at the same date in 1888. The visible supply shows a decrease during the week indicated of 1,421,621 bu. The stocks now held in this city amount to 2,936 bu., against 11,551 bu. last week, and 70,825 bu. at the corresponding date in 1888. The market is very dull, and prices are gradually sinking. For No. 2 3/4¢ was the best offer at the close yesterday, and 33¢ for November delivery; December futures were nominal at 33 1/2¢. Michigan feeders will have cheap corn this year, and in some sections considerable will have to be bought. At Chicago yesterday corn declined a fraction and closed dull. No. 2 spot is quoted there at 31¢ per bu., December delivery at 30 1/2¢ @ 31¢, and May at 33 1/2¢ @ 33 3/4¢ per bu. New York also declined 1/4¢ yesterday.

The Liverpool market yesterday was quoted dull with light demand. No. 2 mixed was 4s. 0 1/2¢, 0 1/4¢ per cental. In futures October sold at 4s. 0 1/2¢, November at 4s. 0 1/4¢, and December at 4s. 0 1/4¢.

## OATS.

The receipts at this point for the week were 49,885 bu., against 45,666 bu. the previous week, and 57,772 bu. for the corresponding week last year. The shipments for the week were 11,195 bu., against 26,543 bu. the previous week, and 20,383 bu. for the corresponding week in 1888. The visible supply of this grain on October 5th was 5,645,516 bu., against 5,739,612 bu. the previous week and 7,408,924 bu. at the corresponding date in 1888. The visible supply shows a decrease of 94,096 bu. for the week indicated. Stocks held in store here amount to 52,721 bu., against 63,504 bu. the previous week, and 64,979 bu. the corresponding week in 1888. Oats are quiet and unchanged. There is quite an active movement in this grain, the low price probably stimulating consumption.

No. 2 white quoted at 23 1/2¢, No. 2 mixed at 22 1/2¢, and light mixed at 22 1/4¢ per bu. At Chicago prices have declined during the week, and quotations are the lowest for years. No. 2 mixed spot are quoted there at 18 1/2¢ per bu., and futures at 19 1/4¢ for December and 20 1/4¢ for May. What the growers of Iowa and Illinois get is an interesting question. It cannot be over a shilling. At New York the market is firm and fairly active for spot, but lower on futures. Quotations yesterday were as follows: No. 2 white, 28 1/2¢ @ 29 1/2¢; mixed western, 24 1/2¢ @ 25 1/2¢; white western, 27 @ 28 1/2¢. In futures No. 2 mixed for October closed at 35 1/2¢; November, 36 1/2¢; December, 26 1/4¢ per bu.

## DAIRY PRODUCTS.

## BUTTER.

There is an active demand and limited receipts of all good grades of butter, both dairy and creamery, and we note a further advance in values. Choice dairy, when obtainable, sells quick at 18 1/2¢, the latter only for extra fine selections; fair to good commands 15 1/2¢ to 16 1/2¢, while low grade stock is dull at 12 1/2¢ @ 14¢. For creamery there is a good demand at a range of 20 1/4¢ to 24¢, the latter only paid for the finest. At Chicago the market is about the same as a week ago so far as prices are concerned, but there is less activity in the movement, and the feeling was one of easiness all around. Quotations were as follows: Good to choice Western creamery, 21 @ 23¢ per lb.; Elgin district or fancy, 24 @ 25¢ per lb.; fair to medium, 17 @ 19¢; choice dairies, 17 @ 22¢; poor to streaked lots, 10 @ 15¢; packing stock, 7 1/2 @ 10¢. The New York market has lost the strength which characterized it a week ago. Continued dullness, with liberal receipts and stock steadily accumulating, makes a decidedly weak and unsettled market, and the weakness is extending all through the list, from highest grades down. Western packed of all grades is very slow, though prices are yet unchanged.

Quotations in this market yesterday were as follows:

	Butter
Creamery, State, extra, fancy	25 @ 26 1/2
Creamery, State, extra, fancy	24 @ 25
Creamery, State, extra, fancy	23 @ 24
Creamery, State, extra, fancy	22 @ 23
Creamery, State, extra, fancy	21 @ 22
Creamery, State, extra, fancy	20 @ 21
Creamery, State, extra, fancy	19 @ 20
Creamery, State, extra, fancy	18 @ 19
Creamery, State, extra, fancy	17 @ 18
Creamery, State, extra, fancy	16 @ 17
Creamery, State, extra, fancy	15 @ 16
Creamery, State, extra, fancy	14 @ 15
Creamery, State, extra, fancy	13 @ 14
Creamery, State, extra, fancy	12 @ 13
Creamery, State, extra, fancy	11 @ 12
Creamery, State, extra, fancy	10 @ 11
Creamery, State, extra, fancy	9 @ 10
Creamery, State, extra, fancy	8 @ 9
Creamery, State, extra, fancy	7 @ 8
Creamery, State, extra, fancy	6 @ 7
Creamery, State, extra, fancy	5 @ 6
Creamery, State, extra, fancy	4 @ 5
Creamery, State, extra, fancy	3 @ 4
Creamery, State, extra, fancy	2 @ 3
Creamery, State, extra, fancy	1 @ 2
Creamery, State, extra, fancy	0 @ 1

Creamery, Western, June, fancy	19 @ 20
Creamery, Western, June, fancy	18 @ 19
Creamery, Western, June, fancy	17 @ 18
Creamery, Western, June, fancy	16 @ 17
Creamery, Western, June, fancy	15 @ 16
Creamery, Western, June, fancy	14 @ 15
Creamery, Western, June, fancy	13 @ 14
Creamery, Western, June, fancy	12 @ 13
Creamery, Western, June, fancy	11 @ 12
Creamery, Western, June, fancy	10 @ 11
Creamery, Western, June, fancy	9 @ 10
Creamery, Western, June, fancy	8 @ 9
Creamery, Western, June, fancy	7 @ 8
Creamery, Western, June, fancy	6 @ 7
Creamery, Western, June, fancy	5 @ 6
Creamery, Western, June, fancy	4 @ 5
Creamery, Western, June, fancy	3 @ 4
Creamery, Western, June, fancy	2 @ 3
Creamery, Western, June, fancy	1 @ 2
Creamery, Western, June, fancy	0 @ 1

The exports of butter from New York since May 1st, the beginning of the trade year, compare as follows:

	Exports
For week ending Oct. 30	523,287
Same week 1888	243,711
Since May 1, 1888	2,609,759
Same time last year	3,205,135

**CHEESE.**

Since the late advance the market has ruled quiet and steady. No changes have taken place in quotations, which remain at 10¢ @ 11¢ per lb. on State full cream. New York brands command 1/2¢ above these figures. While the buoyancy noted in the eastern market has largely disappeared, values have not undergone any change as yet. At Chicago yesterday, with producing points reported weak, and the outward movement of stock of moderate amount, the market ruled very quiet. The home trade showed a little activity.

Quotations yesterday were as follows: Full cream cheddars, 9 1/2 @ 9 3/4¢ per lb.; Young Americas, 10 1/2 @ 10 3/4¢; twins, 10 1/2 @ 10 3/4¢; skims, 7 1/2 @ 7 3/4¢; Swiss cheese, No. 1, 9 1/2 @ 10¢; brick, full cream, 8 1/2 @ 9¢. The New York market is practically unchanged, but with trade very dull. Exporters are doing little. For the first September makes 10 1/2¢ is now an outside figure. The home trade is less active, and this affects the best makes. Whenever stock shows the slightest fault, values are scaled down. A better market is hoped for in a week or so.

Quotations at New York yesterday were as follows:

State factory, full cream, fancy, Sept.	10 1/2
State factory, full cream, fancy, Aug.	10 1/2
State factory, full cream, common, Sept.	9 1/2
State factory, full cream, common, Aug.	9 1/2
State factory, light cream, prime, small	8 1/2
State factory, skims, prime, large	7 1/2
State factory, skims, prime, small	7 1/2
State factory, full skims	6 1/2
Ohio full, August makes	7 1/2
Ohio full, August makes	7 1/2

The exports of cheese from New York since May 1st (the beginning of the trade year) compare as follows:

	Exports
For week ending Oct. 7	1,035,252
Same week 1888	688,925
Since May 1, 1888	15,357,925
Same time last year	15,412,130

At Montreal the market is reported dull, with late August makes held at 10 1/4¢, and early at 10¢. Country markets quoted dull. Some fine September were offered early in the week at 10 1/4¢, and a sale reported at those figures.

The Liverpool market yesterday was quoted dull and easy at 11s. 0d. per cwt. for finest colored and white American, August makes, the same figures as quoted a week ago.

## WOOL.

The condition of the eastern wool markets at the present moment is peculiar, and, under existing trade conditions, remarkably so. There is a fair amount of activity in the demand, as evidenced by the weekly record of sales; the woolen goods market is in better shape than for months; it is certain that stocks of wool are not heavy for the season; it is also certain that holders of wool in the interior will not sell at prices which would enable eastern dealers to purchase with a reasonable certainty of getting back a new dollar for an old one; abroad the demand for good wool is sufficiently strong to keep prices at the London wool sales now in progress above those ruling at the last series. With all these favorable conditions, however, it cannot be denied that the market is not a good one to sell in at present, and that there has been a gradual sinking in values for the past three or four weeks. We attribute this state of affairs largely to two causes: first, manufacturers bought largely during the time directly from wool-growers, and their purchases have kept them out of market except when something cheap offered; secondly, as the market turned against them afterwards, they endeavored to carry their stocks until the market improved, finally being compelled to realize because they could not wait any longer. This made a number of weak holders, and their stocks, added to the direct purchases of manufacturers, have kept the latter supplied with wool. All this has had a weakening tendency on the seaboard markets, and until its effects are got rid of there cannot be much improvement. But as all other known conditions appear to be favorable, it looks as if it was only a question of time when the wool trade shows more strength and firmness. A number of those who hold wool have never lost their confidence in the market turning in their favor, and are holding as strong as ever.

At Boston the Wool Report says there is a firmer tone to the market, although there is a strong pressure for lower prices on the part of buyers, who are limiting their purchases to the smallest possible amounts. The sales for the week, however, foot up 3,596,000 lbs. The Report says:

"For desirable Ohio XXX and above, 33 1/2¢ is freely offered, and 34¢ will buy anything but the choicest grades, which are quoted at 35¢. Any pressure to sell average lots even at 34¢, however, would be unsuccessful, since the market is not in a condition to be forced on any grade of wool. It is simply a matter of time when the market will be improved in every respect, and the yield per acre is much greater in the higher latitudes.

Potatoes were injured east of the Alleghenies by excess of moisture, causing rot. In West Virginia and Ohio similar reports are received. Drouth reduced the yield in Michigan, though the quality is generally good. In the Rocky Mountain region, where the area is largely increased, the season has been unfavorable.

The returns of yield per acre of wheat are in thorough measurement. The present averages for principal States are 13.8 bushels in New York; Pennsylvania, 12.3; Ohio, 14.6; Wisconsin, 14.7; Indiana, 14.7; Illinois, 16; Minnesota, 14.9; Minnesota, 14.4; Iowa, 13.1; Missouri, 13; Kansas, 18.4; Nebraska, 12; Dakota, 8.3; California, 15. Winter

wheat have been made here this week, and while the market has not split enough to say there is an absolute improvement for these selections, yet there are fewer reports of the low quotations talked of a month ago. Sales of Michigan delaine have been made at 33 1/2¢ @ 34¢, and to the same buyers who had previously bought at 32¢, showing that there is either a difference in the quality of the wool or in the tone of the market on the delaine selections, which have been hitherto so drab. A good deal of staple wool is held out of the market, and some holders will not sell their No. 1 One cutting even at 40¢. Sales of 3/4-blood unwashed combing and clothing have been made at 30¢ @ 31¢.

At the London sales now in progress very little if any wool is being purchased for the United States, nor is it likely that any will be at ruling prices. At Melbourne, Australia, the market opened at an advance of a penny a pound. No sales are reported for this country.

There is one thing which has had unfavorable effect on the market for the past month, and that was the stringency in money, and the high rates to which it was advanced in eastern cities. This has changed within the week, and an easier market will help holders of wool. As the west has had fair crops this season as a rule, and will undoubtedly purchase more freely than for the past two years, we think the outlook for manufacturers much more promising than a year ago, and any improvement in goods must, as a matter of course, react upon the market for wool.

## CARPET VS. CLOTHING WOOL.

The FARMER has frequently charged that under the low duty rate assessed on so-called carpet wools, large amounts of wools afterwards used in the manufacture of wools were brought in by importers and manufacturers. This practice had a most demoralizing influence upon the wool and woolen industry. An honest manufacturer, who used domestic wools, or paid full duties upon those he imported, was unable to compete with the sounders who, by means of false oaths, bribing customs officials, and other disreputable practices, could procure their wools at a much less cost. These charges have received unexpected corroboration from a manufacturer, Robert Bleakie, of Massachusetts, who sends the following letter to the Wool Reporter:

OFFICE OF ROBERT BLEAKIE & CO.,  
Woolen Manufacturers,  
HYDE PARK, Mass., Sept. 28, 1889.

MR. EDITOR: In your issue of the 26th inst., I notice that you ask me whether any wools imported as third-class or carpet wools are used to displace first or second class wools in the manufacture of cloth for clothing purposes? In reply, I will state that I am satisfied that many millions of pounds of third class or carpet wools are used in making cloth for clothing purposes.

Three years ago, the firm of Robert Bleakie & Co., of which I am a member, placed upon the market a line of Scotch cheviot goods made from domestic clothing wools. We were surprised to find goods similar to ours offered and sold by Philadelphia manufacturers at prices less than the cost of our goods at the mill. Upon investigation we discovered that the Philadelphia goods were made from the fine end of carpet wool, that is to say the finer sorts had been taken from the carpet wool, and the beautiful cheviot goods, for making which Scotland is famous, had been degraded by the substitution of cheap wool to reach a price satisfactory to the buyer of cloth. We were obliged simply to withdraw the goods which we had made from our domestic wool, and follow the example of our more enterprising competitors, some of whom I know to-day are making a business of producing clothing goods using nothing but carpet wool.

Our firm has used of these carpet wools during our last run on chevionts about one hundred and fifty thousand pounds, equal for cloth-making purposes, to over two hundred thousand pounds of Georgia wool owing to its lighter shrinkage.

I am a sincere believer in carpet wool being made free as well as clothing wool, and it is very amusing to me to hear the carpet manufacturers clamoring for free wool for their mills when they of all the consumers of wool have the least cause for complaint. The logic is to say the finer sorts had been taken from the carpet wool, and the beautiful cheviot goods, for making which Scotland is famous, had been degraded by the substitution of cheap wool to reach a price satisfactory to the buyer of cloth. We were obliged simply to withdraw the goods which we had made from our domestic wool, and follow the example of our more enterprising competitors, some of whom I know to-day are making a business of producing clothing goods using nothing but carpet wool.

Our firm has used of these carpet wools during our last run on chevionts about one hundred and fifty thousand pounds, equal for cloth-making purposes, to over two hundred thousand pounds of Georgia wool owing to its lighter shrinkage.

This should settle all controversy over the question of free carpet wools. Every wool-grower is interested in seeing the duties fully maintained. It would be a deadly blow to the wool-growing industry of the country to have them removed.

## CONDITION OF CROPS.

Percentage Reports by the Agricultural Department.

The Department of Agriculture reports the general percentage of the condition of corn at 91.7, against 90.9 a month ago and 93 for the crop of 1888 on Oct. 1; condition of potatoes 77.9, against 86.8 last October; of buckwheat 90.7, against 93.1 last year; of tobacco 90.7, against 85.7 in 1888. The preliminary estimate of yield per acre is 12.8 for wheat, 11.9 for rye and 22.3 for barley.

The past month has been favorable for corn. A slight frost north of 49° injured late corn, but the percentage of damage was generally very small, as the crop was well matured in the third week of September. The dry weather came opportunely after the abundant rains of July and August, which somewhat impaired the condition on the Atlantic coast. In the States of the Ohio valley there was excess of moisture in May and June that retarded planting and early growth, prevented cultivation and delayed maturity, leaving some fields to be caught by the frosts of Sept. 20-25. The best development of maize was in the Missouri valley. The best growth of the South was in the Gulf States. It could scarcely be improved in either district, though the yield per acre is much greater in the higher latitudes.

Potatoes were injured east of the Alleghenies by excess of moisture, causing rot. In West Virginia and Ohio similar reports are received. Drouth reduced the yield in Michigan, though the quality is generally good. In the Rocky Mountain region, where the area is largely increased, the season has been unfavorable.

The returns of yield per acre of wheat are in thorough measurement. The present averages for principal States are 13.8 bushels in New York; Pennsylvania, 12.3; Ohio, 14.6; Wisconsin, 14.7; Indiana, 14.7; Illinois, 16;







## Poetry.

## MAN'S LIFE.

Before the beginning of years  
There came to the making of man  
Time with a gift of tears;  
Grief, with a glass that ran;  
Pleasure, with flowers that fell;  
Remembrance fallen from heaven,  
And madness risen from hell;  
Strength without hands to smite;  
Love that endures for a breath;  
Night, the shadow of light,  
And life, the shadow of death.

And the high gods took in hand  
Fire, and the falling of tears,  
And a measure of sifting sand  
From under the feet of the years;  
And froth and drift of the sea;  
And dust of the laboring earth;  
And bodies of things to be;  
In the houses of death and birth;  
And wrought with weeping and laughter;  
And fashioned with loving and love,  
With life before and after,  
And death beneath and above,  
For a day and a night and a morrow,  
That his strength might endure for a span  
With travail and heavy sorrow,  
The holy spirit of man.

From the winds of the north and the south  
They gather us into strife;  
They breathe upon our life;  
They shed his body with life;  
Eyesight and speech were wrought  
For the souls of the soul there;  
A time to serve and to sin;  
They gave him life in his ways,  
And love, and a space for delight,  
And beauty and length of days,  
And night, and sleep in the night,  
His speech is a burning fire;  
With his lips he traveled;  
In his heart is a blind desire,  
In his eyes knowledge of death;  
He weaves, and is clothed with derision;  
Sows, and he shall not reap;  
His love is a watch or a vision  
Between a sleep and a sleep.

—Scribner.

## THE SAILOR'S DANCE.

What's he that talks of a jig or a reel,  
Who has never been a sailor,  
Or a hornpipe seen on a ship of a queen,  
Or an Arctic Ocean whaler?  
You hear the ring of the box-tan call—  
"For a dance, my lads, all ready;  
The moon is high in the radiant sky  
And the old ship going steady!"  
That's his heel and toe  
To the tune of a bow,  
And it's all so light and breezy;  
You may look in France or Spain for a dance,  
But you'll say  
Any day  
That the hornpipe beats them easy.

The far along has a dance of his own,  
And it takes a turn to dance it,  
Though a lassie waltz with two little feet,  
Is the one charm to enhance it.  
You dance with one or you dance with two,  
As the notion takes your fancy;  
In an Indian glade, with a dusky maid,  
Or at home with the sweet Nancy!  
For it's heel and toe  
To the tune of a bow,  
And it's all so light and breezy;  
You may look in France or Spain for a dance,  
But you'll say  
Any day  
That the hornpipe beats them easy.

It speaks of home to the hearts of a crew,  
And it sets us to a dreaming,  
As we dance in tune, to the light of the moon,  
On lonely ocean gleaming.  
It takes us back on the homeward track  
To the friends that soon will greet us;  
The ringing cheer, as we touch the pier,  
And the welcome that will meet us.  
Oh! it's heel and toe  
To the tune of a bow,  
And it's all so light and breezy;  
You may look in France or Spain for a dance,  
But you'll say  
Any day  
That the hornpipe beats them easy.

—Temple Bar.

## Miscellaneous.

## THE BLACK BUOY.

"Swim!" said Grandmamma, as we sat  
around the crackling billets one evening.  
"Every boy and girl should learn to swim.  
Why, I could swim like a duck when I was  
a girl. Dear me, dear me!"

Grandmamma sat bolt upright in her high-  
backed chair, resting her elbows on the arms,  
and smiling across at grandpa—who sat on  
the other side of the hearth—with a con-  
scious look in her bright old eyes. Grand-  
pa, the general, pausing in the act of rais-  
ing his tumbler to his lips, nodded and smiled  
back again at grandmamma. They were both  
white-haired, bright-eyed and rosy-cheeked,  
both sat, straight and erect, in tall, red-  
cushioned oak chairs; and each saw the  
other through an effacing medium that  
smoothed out wrinkles, restored hyacinthine  
locks, and blotted out the fifty years that  
lay between them and youth.

Now, when we, the youthful descendants  
of this stately pair, grouped in lazy attitudes  
around the vast, roaring hearth, with its tall  
carved chimney-piece, saw the meaning  
looks were exchanged between our re-  
spected progenitors, we sensed a story.  
And when a many-voiced appeal for the story  
broke from us, grandmamma hesitated for a  
moment and shook her head, then looking  
across to grandpa, who nodded again, and  
after a little pressing she thus began—

You know, young people, that you are of  
good family only on your grandfather's side,  
and not on mine; for he came from an old  
and honorable stock, while my father was  
only a ship's boy's son. My father was killed  
in a great sea-fight, when I was only a little  
child, and I was brought up by my grand-  
father, who was ostensibly a boatbuilder and  
fisherman, but in reality a smuggler! A  
successful smuggler, too! In those days  
smuggling meant great risks and enormous  
profits, for duties, especially on foreign wines  
and spirits, were exceedingly high. It was  
not only a profitable trade, but it was re-  
spectable in a peculiar sort of way; for it re-  
quired great courage and great skill. England  
was always at war in those days, and the  
smuggler ran the risk of being snapped up by  
an enemy's cruiser, as well as of falling into  
the clutches of a revenue cutter. In addition,  
there were the inevitable chances and dan-  
gers of the sea, so that a good smuggler had  
not only to be a man of great daring but  
of great knowledge of navigation. He had to

work into harbor on the darkest night, for  
it was only on dark nights that he could ven-  
ture on a "run"—with the utmost secrecy  
and despatch. To do that, he must know  
every inch of his way, be able to distinguish  
landmarks and buoys where an unpracticed  
eye would only see indistinct blackness, and  
know to a nicety what time the tide turned,  
and know to a nicety the sandbanks, and the position  
of the sunken rocks.

My grandfather could neither read nor  
write, and he had as I think for that reason,  
a wonderful memory. He was assisted in  
his work by my two uncles, both illiterate  
men like himself, and the three seemed to  
find their way, through long practice and  
acute observation, as if by instinct. There  
was only one channel leading to the landing  
place; the mouth of the little river where we  
lived being almost choked by sand-banks  
which ran out to some distance. It was ne-  
cessary to hit this channel a considerable  
way out at sea, and a small black buoy bob-  
bed up and down to indicate its commence-  
ment. One side of the harbor was formed  
by a line of rocks, jutting out to some  
length and shelving down gradually into the  
water; and the buoy was distant from the  
extremity of these rocks about three-quarters  
of a mile. This headland was called the Point.

The black buoy, a mere speck on the wa-  
ters, was hard enough for any one to find in  
the broad day; yet my grandfather never failed  
to find it in the dark—for of course it was  
only on a moonless night that he could hope  
to run a cargo. The usual course of proceed-  
ing was this: The lugger arrived off our  
coast at nightfall, lay to until a signal was  
flashed from our friends on shore, and then  
found the entrance to the channel, and work-  
ed in with the tide. It was necessary to be  
very careful in hitting off the channel at first,  
where the buoy was, or they might run on  
the sunken rocks at the extremity of the  
Point.

Grandfather and I lived in a pretty cottage  
at one extremity of the village. Our house  
was better than most of the others, for  
grandfather had money in the bank, and was  
well to do. The cottage was covered with  
honeysuckles and creepers; at the back was  
a well-stocked kitchen garden; in front was  
a grassy bank sloping down to the sand, at  
its junction with which stood our wooden  
boat-house. By the boat-house lay three or  
four of our boats, broad, strong, and un-  
wieldy; and opposite the boat-house were the  
moorings of the Little Lady, our naughty,  
fast sailing, clever little lugger.

I had a very independent, irregular kind  
of life. My grandfather was often away for  
days at a time, and the old woman who  
looked after the house—for grandfather was  
dead long since—would have had little time  
for scolding and cleaning if she had tried  
to look after me. I got a little book learn-  
ing from the old vicar, but it was not enough  
to hurt me. No, my dear; I knew no  
Italian, or Latin, or algebra; but my eyes  
were none the less bright, my lungs none the  
less clear, my color none the less blooming,  
that I passed most of my days in the bright  
sunshine and free fresh air. I could run a  
couple of miles and jump a gate; I could pull  
an oar with the best, and I could swim like  
a duck. I was thoroughly at home either on  
the water or on land. The sea had no terror  
for me except such as it was as it was a  
pleasure to overcome. So at sixteen, I am  
told, I was a fresh-colored, free-limbed, bright-  
eyed young man, whose long tresses of thick  
brown hair, and who bothered her head very little  
with the other sex.

Not but that I had my admirers. But they  
were limited in quantity and coarse in qual-  
ity, I mean rough; mainly enough, but lack-  
ing in that refinement which a young girl in  
rank of life always longs for, and which  
sometimes sad results. Anyhow, the bold  
young fisherman who made sheepish over-  
tures to my formidable self, excited nothing  
on my part but polite amusement, and I was  
heart whole. I was very happy, had a won-  
derful appetite, and sound in mind and limb;  
and perhaps, young people, you have to thank  
the rough freedom of my early life for the  
excellent constitutions which you now en-  
joy.

On a certain day in September when I was  
nearly seventeen years of age, my grandfath-  
er being absent on one of these expeditions,  
and expected back at night, I set off for one  
of the long rambles in the country which I  
was in the habit of taking when he was  
away. As I was not allowed to go off in  
this fashion when grandfather was at home,  
I made a big day of it, starting immediately  
after breakfast, and taking some bread and  
meat with me for dinner. I rambled much  
farther than I intended, lost my way more  
than once, and the night was coming apace  
when I returned. Tired and footsore, I was  
taking a short cut over the heathery cliffs,  
where was only a narrow track made by the  
sheep, when amidst my dreamy anticipa-  
tions of supper and bed came the recollection  
of a little serge bathing-suit, which I had  
meant to fetch in the morning in order to  
repair it. The little cave where I kept it  
was among the rocks of the point, and from  
where I was, being already on the seaward  
side of the village, it was not far distant. So  
I stepped out briskly and soon came to the  
little gully or ravine in the rocks which led  
to my cave, and up which, in the course of  
the night, our smuggled treasures would be  
stealthily conveyed. Carts used to stand at  
the upper end of it to take them away.

I slipped into my cave, felt for my dress  
and found it, and too lazy just then to face  
the ascent up the gully again, stood gazing  
out to sea and wondering where my grand-  
father was at that moment. Then I turned  
homeward. I had gone about a third of the  
gully, which was very dark, when I heard  
a strange sound. I stopped to listen. It  
was not the scream of a sea-bird, nor the  
moaning of the sea. It came down the gully  
and drew nearer, beat, beat, with a little,  
very distinct jingling sound. It must be the  
tramp of men and the clink of steel. Sol-  
diers! I had never seen any; but I guessed  
what they were. In a moment I had scram-  
bled cautiously up the rocks and hidden be-  
hind a ledge. I crouched perfectly still, with  
every sense on the alert. Suddenly two men  
came slowly down the gully talking in low  
voices. They wore long cloaks, and their  
weapons jingled as they walked. They passed  
me and stood at the lower end of the  
gully. The air was very still, and I could  
hear every word they said.

"This is the place, sir," said the bigger  
and stouter of the two. "The goods are  
landed a little at the left here, carried up the

gully, and received at the top by the carts.  
The carts stand where we came down."  
The other, who by the ease of his bearing  
and the deference of the big man, I took to  
be an officer, had a paper in his hand. He  
looked round him, evidently taking in the  
features of the place.

"There won't be any carts to-night, Ser-  
geant," he said in a pleasant voice. "The  
people in the village know we are here, and  
are sure to warn them. I hope they won't  
manage to warn the man we want."  
"Not they, sir," answered the sergeant.  
"Not a boat can leave the harbor without  
being stopped by our men; and not a man  
can leave the village and come in the direc-  
tion of the Point, if you post the men as I  
venture to suggest." Here the conversation  
became inaudible for a moment. "A man  
at the top of the gully, sir, and the others at  
intervals on the seaward side of the village.  
You and I, sir, to manage the signal down  
here, and then I step up to the man at the  
top of the gully, one calls in another, and we  
are all down here ready to receive them."

"By all means," said the officer; "and as  
you know the place and I don't, you had  
better post the men. By the way," he added,  
scanning the paper in his hand and holding  
it close to his eyes, "at 12.30. I think it  
is the signal. You undertake that, don't  
you?"

The sergeant produced something, prob-  
ably a lantern, from under his cloak. "Here  
is the signal, sir."  
The sergeant saluted and clanked up the  
gully, while the officer walked slowly to-  
ward the water and stood at the edge—some  
distance from me, for the tide was getting  
low—with his head bowed, and his hands  
clasping the pebbles behind his back. I ven-  
tured to breathe freely again, and began to  
review the situation. What did it all mean?  
It meant that the authorities had not wind  
of my grandfather's doings, and had sent  
this detachment of soldiers to take him in  
the act. It must be grandfather, because  
there was no one else in the village likely to  
be aimed at. And if they caught him, what  
then? "Transportation for life?" What  
was that? It was no uncommon punishment,  
I had heard, for a smuggler taken, as my  
grandfather was likely to be, red-handed.  
For a moment the glow flashed into my head  
that he might not come that night. But no!  
The wind was light and not unfavorable;  
there was no suggestion of a storm; the  
soldiers in the sky, and I knew that our friends  
in the wagons had arranged to come and that  
all was in readiness. My heart sank within  
me as I thought of my old grandfather's  
gray hairs discolored in a felon's dock—for  
I had once seen a man tried—and his kind  
old face bidding me farewell forever. I  
bowed my head on my hands and longed to  
cry.

Suddenly I raised my head, and my heart  
beat with a loud resolve. I would save him.  
Yes, I! The skill that I had attained for my  
own heedless pleasures should be put to  
stern service. My resolve was this. When  
the lugger showed her signal in answer to  
that treacherous one from shore, I would  
swim out to the buoy and keep aloft at the  
entrance of the channel until I could hear  
our people and warn them of their danger.

I never hesitated after I had formed this  
resolution. I forgot that I was tired and  
hungry, put aside the thought of cold and  
exhaustion in the water and began at once  
to make my preparations. On the narrow  
ledge of rocks where I now knelt, I undress-  
ed, and put on my little bathing-dress, which  
consisted only of a tunic and drawers. My  
own clothes I made into a bundle and stow-  
ed away behind a stone. Then, like a cat,  
I clambered up the rocks, hiding behind  
every projection, and keeping a fearful  
watch upon the sentinel at the head of the  
gully. Fortunately, the gully was not very  
deep. When I got to the top, I crept on my  
hands and feet until I judged I was well out  
of sight, and started for the end of the point.  
I took my time, for there was no  
hurry, and I had to husband my strength;  
and at last I reached the rock from which I  
meant to start. There I sat down to wait.

I did not know the time and could only  
guess it by calculating from the sunset.  
How long should I have to wait? How  
long did I wait? Heaven knows, but it  
seemed an age. I got sleepy from my day's  
exertion. The night air was cold, too, and  
my clothing, however well adapted for exer-  
cise, was somewhat scanty for sitting in.  
Besides it was damp. The wretchedness of  
that long watch over me now.

Oh! Would the slow minutes never pass?  
Thicker and thicker grew the gathering  
darkness. The waters and the heavens were  
blended in obscurity, and there, at the end  
of the rocks, I sat patiently, a poor little  
figure shivering in the gloom, listening to  
the lap of the waves as they beat upon the  
rocks, peering out to sea with my heart in  
my eyes. I waited so long that I believed I  
must have fallen asleep and missed the sig-  
nal, and at that thought I was burying my  
face in my hands to give way to despair,  
when something stopped me—and flash! far  
out upon the dark sea, there was I sprang  
to my feet, every nerve tingling. The mo-  
ment for action had arrived.

I paused for a moment to picture to my-  
self the bearings of the buoy. I knew ex-  
actly how it lay from the point, for I had  
swam round it often enough. But not in the  
dark. Not with the water a vast black plain  
mingling with the black sky; not with the  
fear of sinking to those mysterious depths,  
unseen, unheard, unhelped. But I never  
hesitated. Into the cold flood I plunged,  
and struck out boldly in the direction I had  
determined upon. After a few vigorous  
strokes, the sense of active exercise, exulta-  
tion in physical power, and use of skill over-  
came my misgivings. But they came on  
again when I looked around upon that murk-  
y waste of water. Could I be sure I was  
going in the right direction? Might I not  
be swimming in a circle, and never find that  
which I was in search, lose myself and be-  
come exhausted—to sink beneath that silent  
sky alone?

But on I went, struggling hard to keep my  
wits about me in spite of the horrors that  
would rush over my brain again and again.  
It was hard physical work, too, for the tide  
was coming in; there were breakers in the  
shallows, and in the channel the stream was  
fast and strong. It was impossible to see  
more than a few yards ahead, level as I was  
with the water. With the tide running so  
hard against me, it was difficult to judge how  
far I had succeeded in getting. Once I  
saw but gave up. I got out of the channel

into the breakers, and the buffeting and  
beating bewildered me, so that I fell in a  
state of panic. I threw myself on my back,  
and in the very act—thanks to my practiced  
eyesight, that could more or less see in the  
dark—I caught sight of the buoy. There it  
was, bobbing up and down, looking at me  
like a thing of life. I swam to it and kept  
close by it. It was like a friend in all this  
desolation of heaving seas. But now came  
the worst work of the whole. The lugger  
must inevitably pass within half of me, but  
what if my strength was ebbing fast! I had  
been without food since noon, I had walked  
many miles, swimming in an exacting exer-  
cise, and I had still to exert myself resolute-  
ly, with the tide running fast, to maintain my  
present position. My limbs moved mechan-  
ically, my head was dull and heavy, and  
there was a sort of tingling in my ears. I  
knew I was going fast.

A little gleam of parting waters, a black  
mass looming blacker than the darkness, and  
I summoned all my energies for a shout.  
"Little Lady, ahoy!"  
A voice came from the darkness. "Little  
Lady it is. Who are you?"  
"I am to lay and throw a rope over your star-  
board quarter."

The lugger was not thirty yards distant, I  
made my last effort and swam to her. A  
rope was thrown; they hauled me on board;  
and I had just time to give my warning be-  
fore I fell fainting on the deck.

When I came to, the last look of our cargo  
was being lowered into the sea. We were  
some little distance up the coast, and floats  
were attached to the kegs so that we might  
be able to find them again. So expeditious-  
ly was all this done that it was only two  
hours afterwards when we beat cautiously  
up the channel and cast anchor opposite the  
mouth of the gully. We pulled ashore in  
our boat. As she grounded and we leaped  
out, dark figures started up around, lights  
flashed upon us, and we were surrounded by  
soldiers.

"In the king's name," said the young offi-  
cer, advancing with his sword drawn and  
his cloak thrown back to show his scarlet  
uniform.

It was a picturesque group illuminated by  
the flickering light of the soldiers' torches.  
My tall old grandpa with his weather-beat-  
en face and gray hair; the boyish, handsome  
officer, bright with scarlet and steel; the  
stolid seamen in their jerseys and sou'-  
westers; the soldiers with their bronzed faces  
and glittering accoutrements; and, I suppose  
myself keeping under shelter of my stalwart  
grandpa, disguised as I was in a suit of oil-  
skins and a big sou'-wester that almost cov-  
ered my rebellious hair.

My grandfather said nothing when the  
young lieutenant ordered the sergeant to  
board the lugger, and only a quiet twinkle  
of his keen gray eyes showed his enjoyment  
of the scene. He stood looking up at the sky,  
while the lieutenant kept his eyes fixed on  
the ground and toyed with his sword belt.  
The soldiers had to row, and clumsily enough  
they did it, provoking one of the seamen to  
a loud guffaw which was instantly suppres-  
sed.

The sergeant was back again pretty soon;  
his red face was purple with wrath. "We've  
been made fools of, sir," he exclaimed,  
saluting the lieutenant. "Nothing on board  
except some meat."

The lieutenant's face fell for an instant;  
then he looked at the sergeant's wrathful  
countenance, and bit his lips to keep from  
smiling.

The sergeant was at white heat. "With  
your permission, sir, I'll search these fel-  
lows," said he.

"If you like," answered the lieutenant  
carelessly.

The search was soon accomplished, and  
they found nothing that they wanted. I  
kept behind my grandfather's back, hoping  
to escape observation. But the sergeant  
caught me by the wrist. My grandfather in-  
terposed.

"There is nothing contraband on that  
boy," said he peremptorily.

"We'll soon see that," answered the  
soldier, grasping my wrist until I could have  
screamed with pain.

My grandfather did not strike him, but  
administered a kind of push with his heavy  
shoulder that sent the sergeant, big as he  
was, staggering a yard or two. With the  
losing of his hold, I slipped and almost fell;  
went my sou'-wester, and down, alas!  
dressed my long brown hair all over me.  
The young officer instantly stepped between  
the sergeant and me.

"I don't think we need search this young-  
ster," he said, in a tone of quiet authority.  
"He is not likely to have anything con-  
traband about him. Where have you been to-  
night?" he added, turning to my grandfath-  
er, while I got into the background, conscious  
that the young gentleman's eyes had found  
me out.

"Lobster fishing," answered my grand-  
father, unblushingly.

"Not much sport, I'm afraid," said the  
lieutenant, looking abstractedly over my  
grandfather's shoulder.

"Not a great deal," answered my grand-  
father. "But we've taken as much as you,  
sir. Perhaps you would like to come with  
us sometime and we might do better."

"Perhaps I will," answered the officer,  
still glancing over the other's shoulder.

"Meanwhile, I am sorry to have caused you  
or yours any annoyance. Good night to  
you, fall in, men!"

And away they went. But my grandfather  
gave up the trade soon after that and sold  
the lugger.

Grandmamma paused and looked at grand-  
pa with a smile.

"And did you never see a bright girl of  
fourteen, with long brown hair, probably  
like what grandmamma once was?"

"My dear," said grandpa, "I was the  
lieutenant."—Chambers Journal.

We are willing to bear personal testimony  
to the efficacy and value of Hood's Sarsapa-  
rilla, which we have been advertising some  
years in our paper, having used it for blood  
impurities with great success. It is a prepa-  
ration of standard merit, made of perfectly  
pure ingredients, and thoroughly effective in  
cleansing and purifying the system. For  
eruptions, boils, etc., it can be relied upon  
every time. Our experience with it has been  
most gratifying, and we are glad to give it this  
endorsement.—Athol (Mass.) Transcript.

Merchant—You couldn't get here any ear-  
lier, could you? Breakfast at stake, I suppose.  
Clerk—No, sir; it was the steak at breakfast.

## An Offer of Matrimony.

The Literary World, in a review of Mrs.  
Brush's new book, "Inside Our Gate," says  
perhaps the most delightful of all Mrs.  
Brush's delightful delineations is the Scotch  
cook with her aphorisms, her lovers, and her  
calm, Christian determination toward her  
own way. The offer made her by "Meester  
MacFarlane, baker," in the presence of her  
mistress, is something delicious.

"I just called to say, Miss Catherine  
Elizabeth Drummond, that I made you an  
offer of matrimony this day week, and I was  
like an answer."  
Tibbie looked as innocent as a lamb.

"Weel, sir," she said, "if a' ye require  
an answer, I suppose as long as ye get an  
answer, ye dinna care what it may be?"

"Ye ken weel that I care," replied the  
sister doggedly. "The last time I was here  
ye made objection to me bin' a baker, but  
ye said pick that bone wi' me father for ap-  
prentice!" me to that trade. Ye remarket  
that ye'd always intended to marry wi' a  
sailor. But I canna be a sailor a-grippin' wi'  
her ropes, climb' up bare poles like a dancin'  
bear, to pleasure even ye at my time of life."

Mr. MacFarlane's temper was up a bit,  
he didn't know Tibbie as well as I did. A  
firm expression was settling upon her mouth  
and a glitter in her eyes.

"What settled objection ha'e ye to a  
baker?" he continued.

"It always mak's me sick to my stom-  
ack," replied Tibbie, "to think of flour and  
water muddled thegither by men-folk. I've  
heard that they tramp crackers wi' their  
feet, too—heaven forbid!"

This was too much for Mr. MacFarlane.

"Hae ye never tasted baker's bread in  
ye'r life?" he continued warmly, "nor  
crackers, lass?"

"Weel, I maun confess I hae," returned  
Tibbie in a provokingly calm voice.

"When I was a bit o' a lass and didna ken  
what I was eatin'; we a' mun eat our peck  
o' dirt."

"An' hae nae eaten baker's bread sin' ye  
were grown?"

It sounded like stern controversy between  
consumer and manufacturer, rather than  
like a conversation between lover and sweet-  
heart.

"Weel, I hae," admitted Tibbie, "when  
took wi' pangs of hunger and considerin'  
what the chosen people eat in the destruction  
o' Jerusalem; but I eat it wi' me eye fixed  
on the ceiling and repeating a verse of Scrip-  
ture to divert me mind till it were well gulped  
down."

The Woodcock and the Worm.

When the moon rose I took a position  
near one of the moist places, where the  
borings were freshest and most plentiful,  
and awaited developments. For a long  
time the bright light of the moon fell full  
upon the spot I wished to observe, and I  
could see everything with the utmost plain-  
ness. At about eight o'clock a woodcock  
dropped down silently beside the brook.

Presently another bird walked out of the  
shadow and joined it. Both began to  
"bores" for worms—an operation I had never  
seen before, and a curious performance it  
was. The birds would rest their bills upon  
the mud and stand in this position for sev-  
eral seconds, as if listening. Then, with a  
sudden, swift movement, they would drive  
the bill its entire length in the soil, hold it  
so for a second, and then as swiftly with-  
draw it. Though I watched the birds care-  
fully with the glass, I could not detect the  
presence of a worm in their bills when they  
were withdrawn. But a subsequent search  
gave me the clue to their method of feeding.

After having bored over a considerable piece  
of ground—a square foot or more—they pro-  
ceeded to execute what looked comically  
like a war dance upon the perforated terri-  
tory. They also occasionally tapped the  
ground with the tips of their wings.

My intense curiosity to know the possible  
utility of this process was at length gratified  
by seeing a worm crawl, half-length, from  
one of the borings, when it was immediately  
pounced upon and devoured by one of the  
woodcocks. Presently another worm made  
its appearance, and so on until the two  
woodcocks had devoured as many as a dozen  
of them. Then the "vein" seemed ex-  
hausted, and the birds took their leave.

I have subsequently studied the philoso-  
phy of this method of digging bait, and  
have come to the conclusion that certain  
birds are a great deal wiser than certain  
bipedes without feathers. If you will take  
a sharpened stick and drive it into the  
ground a number of times, in a spot which  
is prolific with worms, and then tap with  
a stick for a few minutes, you will find  
that the worms will come to the surface,  
and that they will come up through the  
holes which you have made. I account  
for it by the supposition that the tapping  
of the stick somehow affects the worms the  
same as the pater of rain, and it is a well-  
known fact that worms come to the surface  
of the ground when it rains. The antics of  
the woodcock when they have made their  
borings, then, were simply mimetic, and  
intended to imitate the worms into the be-  
lief that it was raining in the upper world.  
The worms, being deceived, came up and  
were devoured. All this may seem ridicu-  
lous, but if it is not true, will some natu-  
ralist please state how a woodcock can grasp  
and devour a worm when its bill is confined  
in a solid, tight-fitting tunnel of soil, and  
also how it is enabled to know the exact  
spot where it may sink its bill and strike a  
worm? And further, of all those who have  
seen a woodcock feeding, how many ever  
saw it withdraw a worm from the ground  
with its bill.—Forest and Stream.

The Musician and the Wizard.

The great pianist, Hans Von Bulow, as is  
well known, is a man of highly sensitive  
organization. The following anecdote,  
which is vouched for by an eye witness, is  
an illustration: Previous to his last visit to  
this country Von Bulow had never had an  
opportunity of hearing sounds reproduced  
by the phonograph. He had heard much  
of its wonders, and particularly of the  
distinctness and fidelity with which it re-  
produced musical sounds. When the eccen-  
tric musician arrived in New York one of the  
first things he did was to pay a visit to Ed-  
ison's laboratory at Orange, N. J., for the pur-  
pose of gratifying his curiosity about the pho-  
nograph. Mr. Edison received the musician  
in a most cordial manner and succeeded heart-  
ily to his request to hear his own playing re-

produced on the phonograph. The apparatus  
for the transmission of sound was accord-  
ingly arranged and Von Bulow took his  
position at the piano and began to play.

Now music issued forth soft and dreamy  
like the gentle gurgle of the brook on the  
far-off sighing of the night wind, and now  
tremble at his touch, the roar of the cat-  
aract, the rattle of musketry and the ring  
of the hammer on the anvil following each  
other in quick succession.

"There," said he, when he had finished  
and his delighted auditors were slowly re-  
covering from the effects of his wonderful  
execution, "can that ever live again?"

For answer Mr. Edison led the pianist to  
the phonograph, and directing him to place  
the rubber tubes connected with it in his  
ears, started the machine. Then all watch-  
ed Von Bulow's countenance closely to see  
the effect. At first a look of surprise crept  
over the face of the listener, then he became  
ashy pale, and made an effort as if to control  
himself. Finally he tore the tubes from his  
ears and staggered back from the machine  
gasping:

"Mein Gott! Mein Gott! It is bewitched!"

He was about to faint and would have  
fallen had not those about him caught him  
and assisted him to a chair. When he came  
to himself the musician begged to be sent  
home at once, saying that his nerves were  
completely unstrung and he must have rest  
and quiet. The following day, however,  
Von Bulow was at the laboratory again and  
spent several hours in experimenting, exhib-  
iting all the enthusiasm of a child over a  
new toy.—New York World.

The Pacific Fir Tracts.







Continued from first page  
cost 5.55 cents. This shows the effects of feed on the same cow. The difference in cows was almost as striking. The average cost of a quart of milk from the poorest cow was 4.26 cents; from the best cow, only 1.50 cent. The average cost of a quart of milk from the whole herd was 2.74 cents. These figures most strikingly illustrate the difference in both feeds and animals. Averages are deceptive and misleading. They may show a profit where there would be one, but they do not show the difference in cost of 200 per cent. In the cows, and 400 per cent. in the feed, to produce a quart of milk.

## Milk for Cheese.

A cow that gives a large mass of fairly rich milk, as to solids, may be a good cheese cow, but not worth much for butter; or she may give milk rich in butter fat, but in globules so small that they do not separate freely and perfectly from the milk, and be a good cheese cow, or producer of milk for market, but be unprofitable for butter making. The market does not demand very rich cheese, that containing 25 to 30 per cent. of fat bringing about as much as that containing 40 per cent., and hence it is not profitable to make very rich milk into cheese. But it is desirable to retain in the cheese all the fat there is in the milk. For this reason, milk for cheese making needs to be handled very differently from milk for butter making. For the latter, you cannot strain the milk too soon nor too warm from the cow, and set it for creaming. But for cheese making, you cannot stir and cool it too much in a clean atmosphere, nor air it too soon. The same is true of milk for market. It is desirable for both purposes to keep the cream from separating from the milk as much as possible. It may be stirred in and incorporated with the milk again, but not as evenly and thoroughly as it is distributed through the milk before separation. When made into cheese, constant stirring of the milk is required while it is heating for setting, and especially after the rennet is added until it begins to show signs of coagulating. If stirred longer, the curd will not be solid. But stirring up to this point is the only thing that will prevent oil from rising and floating on the surface of the whey, to run off with it, unless it is skimmed off. A very little milk will make quite a show and annoy by adhering to everything that it touches; but when saved it is of little use, unless it may be in cooking. The better way is to carefully retain it in the milk by stirring as long as it is safe, so that the fat globules will become entangled in the curd, to give quality to the cheese.

## Butter Yields.

Prof. W. W. Cook is credited with saying that in Vermont the average yield per cow is only 130 pounds of butter per annum, while there are 30 dairies in the State that average over 300 pounds per cow. The average yield in the State is very low; but progress is indicated by the fact that it contains the 30 herds averaging 300 pounds. Ten years ago in the whole country, and men used to travel long distances to see such a herd. Ten years hence they will be still more numerous. Such herds are now found in every dairy State. It is not possible for all dairymen to have them, as yet; but they are not possible for every one in the not very distant future. The use of blooded bulls from noted families, and careful breeding and selection from the best cows, are the sources of such herds. Improvement may be made and profit realized in the first generation; so that the introduction of better blood pays almost from the start; and it is a dull dairyman who is content with 130 pounds per cow per annum, or even 150 or 200, when 300 pounds are possible. In some instances, herd averages have exceeded this, and in many individual cases the yield has been almost doubled. A Swiss cow, owned by Hon. Thomas Allen, Pittsfield, Mass., in 1879, made 610½ pounds of butter, and sold for \$182.56. These examples of possibilities ought to act as powerful stimulants to the improvement of dairy stock.

## Apples for Cows.

Many are not aware that apples are excellent food for milk cows, and generally more valuable to feed than to sell at the low price which can be obtained for them for elder making. The popular impression is that they shrink the milk. But they do this only when fed to excess, and many other foods do the same. Some years ago we visited the late Prof. L. B. Arnold when he was experimenting with the feeding of apples. His testimony was strongly in their favor as milk producing food, they both increasing the flow and improving the quality of the milk. Other prominent dairymen have given similar testimony. But care must be taken—at first, at least—not to feed them too heavily. Six quarts or a peck a day is sufficient to begin with. After a little, some have fed as high as half a bushel a day to each cow, with good results. It does not seem to make much difference whether the apples are sweet or sour. Prof. Arnold rather gave preference to the sour. A mixture is probably better than either alone. If well ripened, the apples are more digestible and nutritious. In gathering, it may be better not to mix the apples promiscuously, but to store them so the ripest can be fed first. Where cows are not suddenly disturbed—as by a strong one pitching into a weaker one—there is not much danger of choking, especially if the apples are mellow, and in their best condition for feeding. To avoid accident, it is better to feed apples while the cows are standing quietly in their stalls and can take plenty of time to eat them.

## Why is This Thus?

The moment Prof. Sanborn gives facts and figures showing that the silo did not pan out, in his experience, as is sanguinely represented by its advocates, the hot-heads pounce upon him as an opponent of the silo, trying to write it down, when the man never had such a thought! So, too, the moment a word is said by any one in favor of the private dairy, its improvement and its advantages, a lot of creamy advocates jump upon his neck and try to ride him to earth! Why this extreme sensitiveness about what they say "has come to stay?"

## TRANSFERS OF SHEEP.

Recorded in the Michigan M. S. B. Association.  
Below find list of sales of sheep recorded in Michigan Merino Sheep-Breeders' Association:  
H. R. Dewey to A. A. Wood, Saline, rams H. R. Dewey 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

## E. N. BALL, Secretary.

## Veterinary Department

## A Suspicious Case, Probably Scrofula in a Colt—Garget in the Cow.

ALBION, Oct. 9, 1899.  
Veterinary Editor of the Michigan Farmer.  
I have a valuable colt, three years old, that has what we have called a wart, on one side of his face, near his mouth, about where the bit would come. It keeps spreading and is now as large as a silver dollar. It has now festered and broken and discharges a bloody matter. It has done this once before. About an inch from this, upward, is a smaller one that projects and looks like a large crabber. Last winter he had a breaking out, and would scratch and bite himself but seemed to get over it. He is in good pasture and good condition, and always has been. What can I do for it? Also please inform me what is good for garget in cows.

## A SUBSCRIBER.

Answer.—The trouble with your colt is evidently due to some morbid condition of the blood, which has evidently assumed a constitutional character, requiring the personal examination of the animal by a veterinary surgeon in order to prescribe intelligently. If the animal is not properly attended the disease may terminate in fatty or glanders.

No. 2. Garget in the udder of the cow is due to inflammation of the lymphatic glands, usually occurring during the period of lactation. The best remedy known to us in such cases is to foment the udder with hot water for half an hour; wipe dry; Milk clean and apply a little vasoline to the udder with hand friction. Give Internally Bovine Panacea. Ask your druggist for it. If he has not got it give sulphate of magnesia, one pound; Jamaica ginger root, pulp, two ozs. Mix and divide into eight parts; give one powder dissolved in tepid water night and morning.

## Serous Abscess or Collar Boil, and Ringbone.

WILLIAMSTON, Oct. 17, 1899.  
Veterinary Editor of the Michigan Farmer.  
I have a four year old mare which I broke and worked through seedling; three or four days after I cut out her I noticed a bump on the shoulder where it had galled; it keeps getting larger and is soft—would call it some kind of collar boil. What will I do first?

I also have a two year old colt which has a ringbone which came on about one year ago; he has bled severely but cannot help it. Can it be cured? If so let me know in next Farmer and oblige.

## SUBSCRIBER.

Answer.—"The bump on the shoulder," of your four year old mare is an encysted tumor, commonly known as collar boil, the result of injury from unequal pressure of the collar when drawing heavy loads; it contains a serous or watery fluid, which when recent usually yields to hot water fomentation. If not too late a seton passed through it, saturated with turpentine and lard, will probably reduce it, the seton to be turned twice a day until a free discharge is effected. Apply to the surface externally equal parts of glycerine and water, in which dissolve one drachm sulphate zinc; shake well together and apply. Should this fail to accomplish the desired end, the following ointment may accomplish the object desired: Iodine of iodine, one part; vasoline, eight parts; well mixed together and applied twice a week, well rubbed in.

## Second. For the ringbone if the animal is lame apply a good fly blocker; if it is not lame let it alone.

## Commercial.

## DETROIT WHOLESALE MARKET.

DETROIT, October 11, 1899.  
FLOUR.—No change except in rye, which has advanced 5¢ per bu. Quotations on carload lots are as follows:

Michigan roller process..... 3 00 24 00  
Minnesota, best..... 2 50 24 00  
Minnesota, patent..... 2 50 24 00  
Minnesota, extra..... 2 50 24 00  
Low grades..... 2 25 24 00

## WHEAT.—The week closed with a decline in all the markets, east and west, after a very steady feeling for five or six days. The decline was largely in spot, and not likely to last.

tations to-day were as follows: No. 1 white, 81½¢; No. 2 red, 81½¢; No. 3 red, 75½¢; No. 4 red, 60½¢. Futures closed quiet. No. 2 red for October at 81½¢, November at 82½¢, and December at 83½¢ per bu. No. 2 white spot sold at 75½¢, and at 63¢.

CORN.—Dull and lower. No. 2 held at 33½¢, and No. 3 at 35¢ per bu. In futures No. 2 sold at 32½¢ for December delivery.

OATS.—Quoted at 33½¢ per bu. for No. 2 white, 32¢ for No. 3 mixed, and 22½¢ for light mixed.

BARLEY.—Choice samples are firm, while foreign markets are all higher. Closing quotations for No. 2 held at \$1.20 per cental, No. 3 at 90¢, and samples have sold down to 70¢.

CLOVER SEED.—Market dull and lower. Spot, 35¢; 50¢; 55¢; 60¢; 65¢; 70¢; 75¢; 80¢; 85¢; 90¢; 95¢; 100¢; 105¢; 110¢; 115¢; 120¢; 125¢; 130¢; 135¢; 140¢; 145¢; 150¢; 155¢; 160¢; 165¢; 170¢; 175¢; 180¢; 185¢; 190¢; 195¢; 200¢; 205¢; 210¢; 215¢; 220¢; 225¢; 230¢; 235¢; 240¢; 245¢; 250¢; 255¢; 260¢; 265¢; 270¢; 275¢; 280¢; 285¢; 290¢; 295¢; 300¢; 305¢; 310¢; 315¢; 320¢; 325¢; 330¢; 335¢; 340¢; 345¢; 350¢; 355¢; 360¢; 365¢; 370¢; 375¢; 380¢; 385¢; 390¢; 395¢; 400¢; 405¢; 410¢; 415¢; 420¢; 425¢; 430¢; 435¢; 440¢; 445¢; 450¢; 455¢; 460¢; 465¢; 470¢; 475¢; 480¢; 485¢; 490¢; 495¢; 500¢; 505¢; 510¢; 515¢; 520¢; 525¢; 530¢; 535¢; 540¢; 545¢; 550¢; 555¢; 560¢; 565¢; 570¢; 575¢; 580¢; 585¢; 590¢; 595¢; 600¢; 605¢; 610¢; 615¢; 620¢; 625¢; 630¢; 635¢; 640¢; 645¢; 650¢; 655¢; 660¢; 665¢; 670¢; 675¢; 680¢; 685¢; 690¢; 695¢; 700¢; 705¢; 710¢; 715¢; 720¢; 725¢; 730¢; 735¢; 740¢; 745¢; 750¢; 755¢; 760¢; 765¢; 770¢; 775¢; 780¢; 785¢; 790¢; 795¢; 800¢; 805¢; 810¢; 815¢; 820¢; 825¢; 830¢; 835¢; 840¢; 845¢; 850¢; 855¢; 860¢; 865¢; 870¢; 875¢; 880¢; 885¢; 890¢; 895¢; 900¢; 905¢; 910¢; 915¢; 920¢; 925¢; 930¢; 935¢; 940¢; 945¢; 950¢; 955¢; 960¢; 965¢; 970¢; 975¢; 980¢; 985¢; 990¢; 995¢; 1000¢.

BUTTER.—Firm and active. Dairy held at 10¢; 10½¢; 11¢; 11½¢; 12¢; 12½¢; 13¢; 13½¢; 14¢; 14½¢; 15¢; 15½¢; 16¢; 16½¢; 17¢; 17½¢; 18¢; 18½¢; 19¢; 19½¢; 20¢; 20½¢; 21¢; 21½¢; 22¢; 22½¢; 23¢; 23½¢; 24¢; 24½¢; 25¢; 25½¢; 26¢; 26½¢; 27¢; 27½¢; 28¢; 28½¢; 29¢; 29½¢; 30¢; 30½¢; 31¢; 31½¢; 32¢; 32½¢; 33¢; 33½¢; 34¢; 34½¢; 35¢; 35½¢; 36¢; 36½¢; 37¢; 37½¢; 38¢; 38½¢; 39¢; 39½¢; 40¢; 40½¢; 41¢; 41½¢; 42¢; 42½¢; 43¢; 43½¢; 44¢; 44½¢; 45¢; 45½¢; 46¢; 46½¢; 47¢; 47½¢; 48¢; 48½¢; 49¢; 49½¢; 50¢; 50½¢; 51¢; 51½¢; 52¢; 52½¢; 53¢; 53½¢; 54¢; 54½¢; 55¢; 55½¢; 56¢; 56½¢; 57¢; 57½¢; 58¢; 58½¢; 59¢; 59½¢; 60¢; 60½¢; 61¢; 61½¢; 62¢; 62½¢; 63¢; 63½¢; 64¢; 64½¢; 65¢; 65½¢; 66¢; 66½¢; 67¢; 67½¢; 68¢; 68½¢; 69¢; 69½¢; 70¢; 70½¢; 71¢; 71½¢; 72¢; 72½¢; 73¢; 73½¢; 74¢; 74½¢; 75¢; 75½¢; 76¢; 76½¢; 77¢; 77½¢; 78¢; 78½¢; 79¢; 79½¢; 80¢; 80½¢; 81¢; 81½¢; 82¢; 82½¢; 83¢; 83½¢; 84¢; 84½¢; 85¢; 85½¢; 86¢; 86½¢; 87¢; 87½¢; 88¢; 88½¢; 89¢; 89½¢; 90¢; 90½¢; 91¢; 91½¢; 92¢; 92½¢; 93¢; 93½¢; 94¢; 94½¢; 95¢; 95½¢; 96¢; 96½¢; 97¢; 97½¢; 98¢; 98½¢; 99¢; 99½¢; 100¢.

CHICKENS.—Unchanged. Michigan full cream held at 10¢; 10½¢; 11¢; 11½¢; 12¢; 12½¢; 13¢; 13½¢; 14¢; 14½¢; 15¢; 15½¢; 16¢; 16½¢; 17¢; 17½¢; 18¢; 18½¢; 19¢; 19½¢; 20¢; 20½¢; 21¢; 21½¢; 22¢; 22½¢; 23¢; 23½¢; 24¢; 24½¢; 25¢; 25½¢; 26¢; 26½¢; 27¢; 27½¢; 28¢; 28½¢; 29¢; 29½¢; 30¢; 30½¢; 31¢; 31½¢; 32¢; 32½¢; 33¢; 33½¢; 34¢; 34½¢; 35¢; 35½¢; 36¢; 36½¢; 37¢; 37½¢; 38¢; 38½¢; 39¢; 39½¢; 40¢; 40½¢; 41¢; 41½¢; 42¢; 42½¢; 43¢; 43½¢; 44¢; 44½¢; 45¢; 45½¢; 46¢; 46½¢; 47¢; 47½¢; 48¢; 48½¢; 49¢; 49½¢; 50¢; 50½¢; 51¢; 51½¢; 52¢; 52½¢; 53¢; 53½¢; 54¢; 54½¢; 55¢; 55½¢; 56¢; 56½¢; 57¢; 57½¢; 58¢; 58½¢; 59¢; 59½¢; 60¢; 60½¢; 61¢; 61½¢; 62¢; 62½¢; 63¢; 63½¢; 64¢; 64½¢; 65¢; 65½¢; 66¢; 66½¢; 67¢; 67½¢; 68¢; 68½¢; 69¢; 69½¢; 70¢; 70½¢; 71¢; 71½¢; 72¢; 72½¢; 73¢; 73½¢; 74¢; 74½¢; 75¢; 75½¢; 76¢; 76½¢; 77¢; 77½¢; 78¢; 78½¢; 79¢; 79½¢; 80¢; 80½¢; 81¢; 81½¢; 82¢; 82½¢; 83¢; 83½¢; 84¢; 84½¢; 85¢; 85½¢; 86¢; 86½¢; 87¢; 87½¢; 88¢; 88½¢; 89¢; 89½¢; 90¢; 90½¢; 91¢; 91½¢; 92¢; 92½¢; 93¢; 93½¢; 94¢; 94½¢; 95¢; 95½¢; 96¢; 96½¢; 97¢; 97½¢; 98¢; 98½¢; 99¢; 99½¢; 100¢.

FOREIGN FRUITS.—Lemons, Messina, 5¢; box, 5¢; 6¢; 7¢; 8¢; 9¢; 10¢; 11¢; 12¢; 13¢; 14¢; 15¢; 16¢; 17¢; 18¢; 19¢; 20¢; 21¢; 22¢; 23¢; 24¢; 25¢; 26¢; 27¢; 28¢; 29¢; 30¢; 31¢; 32¢; 33¢; 34¢; 35¢; 36¢; 37¢; 38¢; 39¢; 40¢; 41¢; 42¢; 43¢; 44¢; 45¢; 46¢; 47¢; 48¢; 49¢; 50¢; 51¢; 52¢; 53¢; 54¢; 55¢; 56¢; 57¢; 58¢; 59¢; 60¢; 61¢; 62¢; 63¢; 64¢; 65¢; 66¢; 67¢; 68¢; 69¢; 70¢; 71¢; 72¢; 73¢; 74¢; 75¢; 76¢; 77¢; 78¢; 79¢; 80¢; 81¢; 82¢; 83¢; 84¢; 85¢; 86¢; 87¢; 88¢; 89¢; 90¢; 91¢; 92¢; 93¢; 94¢; 95¢; 96¢; 97¢; 98¢; 99¢; 100¢.

BALE.—Michigan, 80¢ per bu. in car lots, or less, 75¢; 80¢; 85¢; 90¢; 95¢; 100¢; 105¢; 110¢; 115¢; 120¢; 125¢; 130¢; 135¢;